THE NEW TERRORIST THREAT: THE DESTRUCTION OF WESTERN CREDIT RATINGS

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ABSTRACT: *This work describes how capital terrorists and/or adversarial nations could use Western capital markets to injure Western economies and limit international power projections. Specifically, we analyse a particular vulnerability of international capital markets, the market for sovereign debt, which is the market for the government debt of individual sovereign states. We describe how this market can be attacked by capital terrorists through the intentional manipulation of the process by which bonds are rated according to their riskiness. We contend that bond ratings (and the rating process) can be weaponised for terrorism where international capital markets are used in illegal, unethical, and criminal ways to destabilise a national government.*

KEYWORDS: capital terrorism, bond ratings, economic crisis, US power projections

SCENARIO, IN THE NEAR FUTURE...

For the past nine months, the US Congress has been unable to pass a budget and the US government has been operating with intermittent government shutdowns. With Presidential elections only months away, resolution of this impasse is unlikely. Last month, Dagong Global – China's rating agency – further lowered the US credit rating to BBA, a point barely noticed in the financial press and generally disregarded by global investors. Also largely uncommented on by the media was the acquisition of a 12% stake in Moody's Corporation by Dragon Management Fund, a state majority owned financial services firm headquartered in Beijing. Eastern Trust Co., a Chinese bank, bought an 8% ownership in Mc-Graw Hill, which owns Standard and Poor's. What *has* gained media attention is China's increasingly vocal opposition to US arms sales to Taiwan, particularly modern F-16C/D fighter jets. Further, China contests the right of the US Navy to perform naval and aerial maneuvers in the South China Sea region.

Three Years Later...

Shortly after their acquisition of a significant equity position in both Moody's and McGraw Hill, China began to publicly express its concerns about the 'continuing uncertainty and instability' associated with the US budget and the ability of the US to stabilise its deficit management processes. China also held negotiations with the FIMLAC Group, a French company that owns Fitch Ratings that resulted in the French company being awarded an exclusive contract to manage Chinese government pension funds. Subsequently, Fitch downgraded US debt to BB. A number of subsequent downgrades followed, with each rating agency following the other. With each downgrade China has attacked the US on its unwillingness to reduce its deficit.

With US debt now classified as junk by the major rating agencies, only the most adventurous investors will buy it. The Government now runs an annual deficit with no end in sight. Inflation is in double digits as the government prints money to meet expenses. To reduce federal expenditures, the US's international military presence has contracted. US bases remain in Japan, but large areas of the Pacific have been abandoned since the Navy was downsised to only five carrier groups. The US is unable to provide much in the way of foreign military assistance and foreign aid is a thing of the past. US influence is mostly limited to the northern half of the western hemisphere. The US is less able to afford the resources to pursue global diplomacy. Unable to sell its debt and plagued with ongoing deficits, the US was limited to only a UN protest when China forcibly assimilated Taiwan into the mainland. A similar protest is scheduled by the US ambassador to the UN tomorrow concerning China's invasion of Vietnam earlier this week...

The New Threat: Capital Terrorism

A new threat is being levelled against the US and its allies (the proverbial "West"); using the West's financial institutions and capital markets against it, termed here and throughout this work as *capital terrorism* in recognition of its focus on the manipulation and distortion of capital markets to destabilise Western economies with the objective of hindering US and Western international engagements.

This work sets to describe how capital terrorists and/or adversarial nations could use Western capital markets to injure Western economies and limit international power projections. Specifically, we analyse a particular vulnerability of international capital markets, the market for sovereign debt, which is the market for the government debt of individual sovereign states. We describe how this market can be attacked by capital terrorists through the intentional manipulation of the process by which bonds are rated according to their riskiness.

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We contend that bond ratings (and the rating process) can be weaponised for terrorism where international capital markets are used in illegal, unethical, and criminal ways to destabilise a national government. Bond ratings have long term implications regarding the ability of the US (the case used throughout this work) to operate a stable economy, generate employment, and influence world affairs. In short, if the US is to remain a superpower, it requires the retention of a super bond rating. But a country's bond rating is a grade assigned by third parties, beyond the control of any government.[1] Hence, the bond rating process is vulnerable to manipulation by capital terrorists and states actively seeking to reduce US/Western international influence.

A bond rating has a direct impact on the cost at which the US can borrow.[2] Since the US bond rating is a measure of credit riskiness, a lower bond rating means that the US is viewed as more risky and will cost the US more to borrow as its bond rating declines. As the US pays more to borrow funds, less becomes available for the programmes and services for which the bond proceeds were originally intended.

Bond ratings also affect the amount that can be borrowed. If its bond rating falls sufficiently far and becomes viewed as "junk" in terms of credit quality, the US will find itself limited in its ability to borrow. This is because many large institutional investors are limited by either practice or by law to high quality investment grade debt. Therefore, a debt rating not only will determine what it costs the US to borrow, but also affects the amount it can ultimately borrow.

And make no mistake about it, the US is a debtor nation. Public debt in the US has increased by over $500 billion annually since 2003. It now stands at $15 trillion dollars. It represents 100% of the

US's 2010 GDP. Being a debtor nation means that the US government spends more than it collects in revenues and taxes. That is, the government cannot afford to provide its various goods and services unless it borrows. The US borrows by issuing the bonds that are referred to as sovereign debt.

The ability of the US to borrow is necessary to maintain a stable domestic economy. Reductions or limitations on the ability of the US to borrow directly affect its capacity to execute fiscal policy for economic stabilisation programes. It also affects the extent to which the US government is able to provide services to its citizens. Because the government's ability to borrow has such an effect on the national economic health, it also affects private investment. Private investment in new plants, innovative technologies, or even a new work force shrivels in the face of economic uncertainty or instability. A government with poor creditworthiness will not be able to maintain a stable economy nor attract the kind of private investment needed for economic advancement.

The ability to borrow also affects the extent to which the US can project global power. Military activities such as deployments, exercises, maneuvers, and forward presence are costly. Foreign military assistance, foreign aid, and humanitarian relief are other expectations of a global power that require financial resources. To fund these needs, the US requires a robust economy that is only possible when its creditworthiness is strong. With reduced amounts of foreign aid or humanitarian assistance, US diplomacy will also be less effective. Finally, the ideological attractiveness of democratic capitalism will be severely impaired when US financial creditworthiness is degraded. The decline in economic power resulting from a degraded credit rating will result in diplomatic retrenchment and military shrinkage as the US is forced to retreat from prominence in global affairs.

What is Sovereign Debt?

As noted by Graeber (2011), credit has a long history and from the very beginning governments were borrowers. Whether the king borrowed food to feed his citizens or borrow gold from wealthy merchants to pay soldiers, the idea of the government as a borrower extends back to the very first civilisations. But the practice of

governments issuing bonds is a relatively new phenomenon, with the first issuance in 1694 by the British government to pay for the Nine Years War. Thus began the practice of national deficit financing and the issuance of sovereign debt.

Governments often borrow money from their own citizens and foreigners to finance the gap between tax revenues and spending commitments. While many government expenditures are discretionary, some are not. This non-discretionary spending often includes social entitlement and defense spending, which are politically difficult to reduce. When governments need to fill a revenue gap, however, they turn to the capital markets to attract private funding. Their actions in these capital markets determine the level of interest rates within the country, affect gross domestic product, and influence private borrowing and lending costs. It is in the interest of a country to maintain a high credit rating to keep its borrowing costs low.

When governments borrow, they sometimes fail to repay. Indeed, defaults in the wake of excessive sovereign debt are not uncommon in history. Spain repudiated its debt several times during sixteenth and seventeenth centuries. After the Communist revolution in 1917, Russia refused to redeem the bonds issued by the Imperial Russian government. Nor were the Confederates States of American able to honor the numerous bonds they issued. Other notable sovereign defaults throughout history include England (1340, 1472, 1596), France (1558, 1624 and others through 1812), Austria (1938, 1940, 1945), The Netherlands (1814), Spain (1557, 1575, 1596 and othrs through 1939), United Kingdom (1749, 1822 and others through 1932).[3]

A further review of history shows that government default is also associated with decline from status as a great power. This is understandable given that the military, diplomatic, and ideological elements of national power all require a strong economic foundation. Economic growth and productivity generates the resources that allow a country to raise strong armies, project diplomatic influence, and to shape global perceptions.

What is a Bond Rating?

Eun and Resnick (2009) describe how the riskiness of sovereign debt is measured with a bond rating issued by a private rater. This

rating is usually in the form of a letter or group of letters that reflects the default risk of a particular bond issue. Bond ratings range from AAA, the highest to CCC-, the lowest. Although there is some variation in the actual designations used across the raters, they are directly comparable to each other much like the ranks of the different military services.

Bond ratings have a direct relationship to a country's cost of borrowing. A higher credit rating means that a country is less likely to default on its debt, which means that investors will demand less in the way of interest payments. The more stable and affluent that a country is, the cheaper will be its cost of credit. A low bond rating is costly to a country, since it will have to pay more to investors to buy its bonds which are viewed as more risky.

Sovereign debt can be divided into two broad categories based on their ratings. Low risk debt is called Investment Grade, while the more risky issues are classified as Speculative Grade. Investment grade bonds are high quality bonds and the countries that issue such debt have a strong capacity to repay. Speculative bonds are issues whose ultimate repayment is uncertain and contain a significant risk of default. Issuers of this type of debt are generally poorer countries with weak economies and a history of financial default or crisis.

An important point to note is that some investors are prohibited by law or their own by-laws from holding speculative bonds. These investors will be forced to sell any debt that is downgraded below investment grade. Hence, if a country's debt is downgraded too far, it will be unable to sell its bonds to its usual investors. It will need to offer much higher returns to attract investors who are willing to hold this risky debt.

According to a 2011 report by Moody's, only sixty-one percent of the countries that it follows issues bonds that are rated as investment grade.[4] The remaining issuers are speculative grade. Moody's further notes in this report that increasingly countries are being classified as speculative issuers. This trend has accelerated since the Mexican crisis of 1988. This deterioration in credit quality of sovereign debt has both domestic and international implications as the following section explains.

When Happens When a Country's Bonds are Downgraded?

While a ratings downgrade not only raises the cost of borrowing, it can also affect national political stability. This is what makes bond rating manipulation such a powerful weapon for terrorists. It can generate public outrage and protest as the government tries to respond with various austerity measures that includes reductions in social spending. This political instability can have a downward spiraling effect as weak leadership leads to rotating governments which are unable to implement a long term stable fiscal policy, resulting in further financial uncertainty. Private companies and investors are reluctant to invest in a country that is political unstable, resulting in a reduced foreign investment and a declining GDP. This leads to a further erosion of tax revenues and an expanding government deficit.

The increasingly interlinked global economy also means that a downgrade in one country can have a cascading effect on the creditworthiness of others. A financially weakened country can "infect" its trading partners and spread its credit "contagion" internationally through its banking and trading links. A ratings downgrade reduces the value of bonds held by international investors which, in turn, reduces their wealth. As investors sell their downgraded bonds, prices fall even further. If the bonds are rated as speculative, the likelihood of default increases and further worsens the price collapse.

A sovereign debt downgrade or default also has the potential to produce failure or collapse of the large international banks that typically invest in these sovereign issues. These banks will require a capital infusion from their own national governments to maintain the stability of the national economy. Thus, the deterioration of national credit is not a single country problem, but can quickly become a regional or global issue depending on the extent to which the sovereign debt is held by foreign investors.

There are other costs to a country when its credit worthiness is downgraded beyond the higher interest rates it must pay. A debtor nation can lose control over its own fiscal policy as lenders dictate the terms under which the new funds are lent. The restrictions imposed by Germany and France during the 2011 negotiations

regarding new loans to Greece are a notable example of this.[5] Indeed, the ability of debtor nations like Greece to wield diplomatic influence or to provide regional leadership is severely weakened as they become increasingly financially compromised. If the International Monetary Fund (IMF) or other external financial institutions provide assistance, then such assistance generally comes with conditions. These conditions typically include austerity requirements, sharp cuts in government spending, and a set of active steps for deficit reduction. As a result, governments often feel that their sovereignty and independence has been compromised. These constraints on national autonomy are a desired outcome for terrorists targeting a particular country's bond rating.

What Determines a Country's Bond Rating?

Afonso (2003) notes that the assessment of a country's credit risk by a rating organisation is a complex task that involves the consideration of a number of factors. These factors include political stability, social cohesion, fiscal policy and balances, macroeconomic performance, monetary flexibility, and institutional effectiveness. Researchers such as Cantor and Packer (1996), Bissoondoyal-Bheenick (2005) and Butler and Fauver (2006) report consistent agreement on a set of quantitative variables that are important in explaining the ratings assigned to the bonds of a specific country. These variables include per capita income, growth in GDP (Gross domestic product), inflation, fiscal deficit, foreign debt. current account deficit, and default history. Table 1 below shows values for these variables for a broad set of borrowers as of 2010.

Although these are important factors in rating a bond, they are not the only factors. A variety of qualitative assessments are also made that involve considerations of the efficiency and predictability of government actions, respect of property rights, ability of the government to tax, and the overall quality of the country's legal and political institutions.

TABLE 1. BOND RATING DATA FOR 2010 FOR MAJOR BORROWERS[6]

Country	GDP per capita	Real GDP growth	Inflation rate	Unemployment	Fiscal balance
US	45,348.46	2.834%	1.63%	9.6330%	-5.555
Canada	46,302.67	3.071%	1.76%	7.9920%	-2.304
China	4,382.14	10.300%	3.27%	4.1000%	-7.083
France	42,017.83	1.486%	1.72%	9.7870%	-3.296
Germany	40,446.70	3.504%	1.14%	7.0830%	-4.483
Italy	35,250.81	1.296%	1.63%	8.4000%	-9.138
Portugal	22,094.80	1.398%	1.38%	12.0420%	-9.242
Spain	32,030.27	-14.700%	2.02%	20.0650%	-10.207
UK	35,315.27	1.251%	3.28%	7.8580%	-10.332

The distinction between quantitative and qualitative data is critical when considering the potential for manipulation of a country's bond rating. Quantitative factors are less prone to manipulation or interpretation because they are clearly defined and easily calculated. Qualitative data, however, are simpler to present in a manner consistent with a pre-determined perspective. Qualitative data is ideal for manipulation since it is not constrained by numbers. Qualitative data spans a range of economic, financial, and political issues, including the nature of leadership succession, the extent of popular participation in the political process, transparency in economic policy decisions, and the stability of the banking system, future trajectory of government spending and taxation, and participation levels in government social programmes.

These many factors are then weighted and evaluated with statistical processes that vary across raters. The final result from these processes is the actual bond ratings themselves. Standard and Poors' uses a process that creates a "political and economic profile" and a "flexibility and performance" profile that are blended to produce a final sovereign debt rating.[7] Moody's' uses a three-step process that begins with an evaluation of a country's economic resiliency.[8] The second step is an assessment of the national government's financial robustness while the last step is a blending of these measures to arrive a rating range. The final determination by Moody's involves a peer comparison and the inclusion of any additional

factors that might have been ignored previously. Fitch's process involves the completion of a sovereign questionnaire by the issuing country, a rating visit by Fitch representatives, feedback by the issuer on preliminary findings by Fitch, evaluation by a senior rating committee, and then finally public announcement of the rating. [9]

But S&P, Moody's, and Fitch are not the only raters of US debt. Although not recognised by the Securities and Exchange Commission (SEC), Dagong Global Crediting Rating Co., also issues a bond rating for US debt. Dagong, whose ownership structure is not public information, was founded in 1994 by the People's Bank of China and the former State Economic & Trade Commission, People's Republic of China. Dagong is beginning to play an increasingly important role in the Asian bond markets and can only be presumed to operate with the approval of the Chinese government. Further, as China's economy continues to grow and its economic power expands, so too will the influence of its bond ratings. Indeed, it is because of current US global prominence and wealth that the US bond raters have such an international influence.

Dagong publicly claims that it ratings are based on an objective analysis of macro-economic factors that influence the ability of the country to service its debt.[10] Indeed, Dagong cited the failure of the US to address its growing federal budget deficit as justification for its recent downgrades. In November of 2010, Dagong lowered its rating on US debt from AA to A+. That was followed by a reduction to A in August of 2011. But Dagong sees itself in competition with the Western raters and publicly complains about the "double standards" applied in rating the economies of the US and Europe. Dagong contends that the Western rating agencies are ineffective and are 'politicised and highly ideological and they do not adhere to objective standards.'[11] Thus even though Dagong claims to be objective, it remains unclear to what extent its own agenda of becoming a global rater independent of US influence will affect its rating decisions.

Who Are the Bond Raters?

The practice of rating sovereign debt fluctuates with the attractiveness of the international bond market. Wars, depressions, and recessions all have a negative influence on the ability of governments

to issue bonds and the corresponding need to have them rated. The sovereign rating market began to take off in the late 1980s when market conditions made the sovereign debt market available to a broader set of national issuers. It has remained strong into the 21st century and is an important component of the fiscal policy of many countries. Indeed, the euro crisis of 2011–2012 illustrates just how important sovereign debt and its ratings are for national or regional prosperity.

Becker and Milbourn (2010) explain how the rating of sovereign debt is largely accomplished by just three firms: Moody's, Standard and Poor's, and Fitch. Moody's and Standard and Poor's are of approximately equivalent size and each holds approximately 40% of the global bond rating market. Fitch is the smallest of these three, and has about a 20% market share. Fitch only began to meaningfully compete against Moody's and Standard and Poor's in 1989. Prior to 1989, the industry was dominated solely by Moody's and Standard and Poor's.

Table 2. Ratings By Issuers

Country	Moody's	S&P	Fitch	Dagong
US	Aaa	AA+	AAA	A
Canada	Aaa	AAA	AAA	AA+
China	Aa3	AA-	A+	AAA
France	Aaa	AAA	AAA	A+
Germany	Aaa	AAA	AAA	AA+
Italy	A2	A	A+	BBB
Portugal	Ba2	BBB-	BBB-	BB+
Spain	A1	AA-	AA-	A
UK	Aaa	AAA	AAA	A+

Table 2 shows the ratings across the three major raters plus China's Dagong for some of the world's largest sovereign borrowers.[12] Several interesting observations can be made from this table. First, we notice that that ratings across the three major raters are virtually identical. When they do differ, they differ by only half a grade. The ratings are highly correlated across these three raters.

This correlation is very relevant for our later argument of cascading downgrades. Second, Dagong's rating for the US is significantly lower than even that of Standard and Poor's. Indeed, Dagong is a very pessimistic rater. The Dagong rating is consistently the lowest for each of the countries below with the notable exception of China.

Indeed, Dagong provides China with the highest bond rating relative to any of these other large Western economies.

The small number of firms competing in this industry is partially due to the US's SEC and its requirement that a credit rating agency be acknowledged as a NRSRO (Nationally Recognised Statistical Rating Organisation) before its rating can be used to satisfy any regulatory requirement. The 2006 Credit Rating Agency Reform Act reaffirmed the requirement for new entrants to obtain this classification as well as need for the applicant to provide the SEC with the procedures and methodologies used to generate its ratings. White (2007) contends that although entry into the industry has become easier since the 2006 legislation, the SEC remains a gatekeeper. Bond rating should be thought of a semi-regulated industry, with the entry of new competitors strictly controlled by the SEC.

In addition to the three major raters, the SEC recognises 6 other rating agencies. But only one other, Egan Jones rates US debt. Indeed, Egan Jones downgraded US debt several weeks before Standard and Poor's, but it was the Standard and Poor's downgrade that generated the financial and political firestorm. There are also foreign raters of US debt, but they are few in number and are not recognised by the SEC.

How Might a Terrorist Manipulate a Downgrade?

It is not uncommon for policy makers and central bankers to claim that a rating downgrade is unfounded and that the rating agencies are unethical. Indeed, during the 2011 euro crisis, Luxembourgish Prime Minister Jeane Claude Juncker, President of the Eurogroup called Standard and Poor's justification for a ratings warning to be 'a wild exaggeration and also unfair.'[13] In this section, we will examine how a rating agency that is influenced or manipulated by terrorists might justify a fraudulent rating.

Capital Terrorism

One such approach a rater might use is an intentional over-reaction to a specific event. In this case, the rater focuses on a particular event, such as the announcement of new deficit numbers or a budget impasse, and uses it as justification for a downgrade. With this approach the rater is simply looking for an excuse to downgrade. The downgrade is an intentionally disproportionate response to the importance of the event. As justification, the rater claims that this event, although apparently minor in magnitude, is symptomatic of larger problems in the national economy. Hence, the rater contends that a downgrade is appropriate.

Bond ratings can also be manipulated through an unreasonable extrapolation. That is, the rater identifies a particular trend, such as growth of the federal deficit, and extrapolates this increase into the future. The rater can make a variety of assumptions regarding the duration and speed with which these economic measures can be projected into the future. For instance, current rates of government debt growth can be extended in the future to a point where such debt represents 200, 300, or 500 percent of GDP. Based up these unfavourable future numbers, the rater can justify the downgrade.

Bond raters might also elect to focus on qualitative rather than numerical factors to justify their downgrade. For instance, raters might complain about political uncertainty in the budget process, lack of a national will to reduce spending or increase taxes, or doubt about the ability of foreign investors to purchase new debt. Such factors are notoriously difficult to assess and even more challenging to weigh in a rating model. It is easy for raters to justify their downgrades based on these softer factors than on more explicit measures such as per capita GDP, inflation rates, GDP real growth, or government debt as a percent of GDP.

Bond ratings could also be influenced by a concentrated media campaign to create doubt about the validity of the U.S's current debt rating.[14] The focus of such a campaign would be on the unsustainability of US debt growth and the underestimation of the risk associated with US treasuries. Terrorists and their supporters would sponsor a number of high profile interviews on global news channels and hold international press conferences to raise concerns about the riskiness of US debt.

Several events can be staged to attract media interest to implement this approach. A conference of finance ministers from select

third world countries can be held where they issue a joint statement noting the weakness of the US economy and the riskiness in holding US bonds. Then a highly publicised selling of their national holdings (or a percentage of them) of US debt is held. This can be followed a few days later with another media event where these finance ministers announce the creation of a new rating agency, cosponsored by their national governments to ensure "fairness and balance" in the assignment of sovereign debt ratings.

Perhaps as part of this media campaign or as its own campaign, terrorists might decide to focus their attacks on the integrity of the Big Three raters. Terrorists could use cultural bias and factual error arguments to justify their contention that US ratings are incorrect. Terrorists would argue that US bond ratings are prime examples of the bias and unfairness present in the current bond rating process.

The cultural bias argument made by the terrorists contends that the bond raters ignore economic weaknesses in the US that are penalised elsewhere in the globe. Terrorists can argue that this inconsistency in bond rating reflects a Western ethnocentrism designed to disadvantage the rest of the world. The terrorists should complain loudly about the double standard for bond rating between Western and non-Western issuers. Terrorists can argue that the bond raters are tools of Western imperialism and actively impede the economic development of the Third or non-Western world. To the extent that the terrorist and their media supporters can link this to social justice and the economic oppression of human rights, various religious and leftist groups in the West can be recruited to their cause.

The factual error argument will center on the softness of economic forecasts and extrapolations. Measurements of macroeconomic data are notoriously inaccurate and subject to a variety of choices in methodology. It will be very easy to identify difference in estimates for any number of growth, productivity, savings, and government expenditure variables. Although such differences might even be defensible, the terrorist can position them as factual errors.

The case for factual errors is further strengthened in discussing the qualitative data that is also included in the bond rating models. The terrorists can cite to US debt ratings by more "independent" third world raters such as Dagong which are lower than those of Moody's, S&P's or Fitch's as evidence of error. These arguments for

factual error are probably better used after the cultural bias argument has been made. In any case, the substance of the error is less important than the fact that the charge has been made. The idea after all is to direct global media attention on the weakness of the US economy and its inflated bond rating.

Possible Debt Downgrade Scenarios

There are a variety of possible scenarios which might result in the downgrade of US debt. It is important to remember, however, that the real goal of the downgrade by a terrorist power is to erode the ability of the US to influence events abroad because of economic weakness. The downgrade is merely a means to an end.

We also emphasise that manipulation only requires one rater to comply. Terrorists do not need to coerce all three of the major global raters. Once a leading rater decides to downgrade, there is the potential for cascading downgrades by the other raters. As noted earlier, there is abundant academic research showing that the ratings of the three leading international raters are very highly correlated.

Let us now consider some of the scenarios where an unwarranted downgrade occurs:

Enter the Dragon

Dagong Global announces a downgrade of US sovereign debt, citing ongoing political paralysis over the budget and weak growth projections as justification. Dagong argues that for too long the world's credit markets have been captive to the decisions by the big three Western raters.[15] Dagong contends that is time for an independent and alternative view, one that will be more balanced in its assessment of sovereign risk. Dagong's Chairman chides the US for its fiscal profligacy in a series of highly publicised interviews and press conferences. He also encourages a number of smaller international raters and private wealth managers to downgrade US debt. The Chinese bank shortly afterwards announces a small sell off of US treasuries due to concern about the long term solvency of the US government. The result of these coordinated actions is to create a crisis of confidence in the fiscal strength and integrity of the US government.

Stealthy Acquisition

It might be possible that a bank, investment fund, or individual financed by a foreign government acquires a substantial interest in the parent company of Moody's, Standard and Poor's, or Fitch. The purchase might be through the public markets, with private equity, or perhaps by coercion. Once control over the company board is gained, it becomes easy to demand a reassessment of the US debt market due to uncertainty about the future trajectory of the federal deficit, tax collections, and productivity growth. A downgrade issued by one of these large raters will have an immediate impact on the market, especially if it a full letter downgrade. The potential for cascading downgrades by the other raters is possible, especially if the downgrade is described as a portent of further US economic decline.

Thuggery

Terrorists might use physical violence, bribery, or blackmail against directors or senior executives of a rating agency to accomplish the downgrade. Obviously, these kinds of actions are intended to force a decision by a rater that otherwise would not be made. The fear of violence, the embarrassment from public disclosure, or the attraction of a bribe might be sufficient to force the rater to provide the desired downgrade.

Further, the coerced rater can justify its downgrade by citing qualitative factors such as political conflict, unstable projected macroeconomic conditions, or uncertainty about future fiscal policy. The rater does not require hard data to support its decision at the press conference or in its media release. Indeed, when Standard and Poor's downgraded US debt in August 2011 its press releases mentioned, 'prolonged controversy over raising the statutory debt ceiling and the related fiscal policy debate' as well as the unlikeliness of reaching agreement on the 'growth in public spending.'

Group Pressure

Waiting for a moment of political weakness in the US due to protracted budget negotiations or announcements of an increase in the debt ceiling, terrorists begin a coordinated campaign to

reduce the US bond rating. It begins with the selloff of US debt by a number of small countries or national wealth management funds. The absolute size of the selloff is less important than the attention it generates in pre-scheduled news conferences and interviews. The number of countries or organisations participating is designed to add gravitas to the concern about the US inability to management of its finances. Pressure and attention is directed towards the major raters to reassess their current ratings. Smaller raters who follow US debt are strongly lobbied to downgrade US debt through a combination of economic argumentation, bribes, and threats. These downgrades are highly publicised and promoted. In response to continued media review and coverage, Moody's elects to put US debt on Creditwatch, citing concerns about escalating debt and the failure of Congress to curb spending. The international media continues to highlight the riskiness of US treasuries and to speculate on the likelihood of an actual downgrade.

How Can the US Combat This New Threat?

Given this potential for the manipulation of its bond rating, how can the US respond? Obviously, the most effective response for the US is to control the growth in government deficit spending and to put real limits on the level of total government debt that is outstanding. This will have the effect of strengthening the US's credit rating and make downgrades significantly more difficult to manipulate. Unfortunately, this solution which is so simple from an accounting and economic perspective, is probably impossible politically. The austerity and spending reductions required by this course of action are too profound to make this solution politically feasible. Consequently, the US response will need to focus on other remedies that are more political possible.

If the number of companies that are authorised by the SEC to rate debt were increased, then the market share of any one rater would likely decline.[16] This would have the effect of diffusing market power and influence over a greater set of raters. Less concentration in the rating industry would make it more difficult for a terrorist to gain influence within the industry. Terrorists would need to control or manipulate multiple raters, rather than focusing on just one. This will require significantly more resources, greater

coordination, and a wider network of collaborators. The effect will be to reduce the likelihood that the terrorists will be able to affect the rating of US creditworthiness.

Although non-SEC raters are not very influential and enjoy only a small market share, there might be good reasons for the US to respond to their downgrades. By responding aggressively to downgrades by even the smallest raters, the US can prevent any cascading effects that might ultimately influence the major raters. Further, it will serve to put the major raters on notice that the US will vigorously defend its bond rating and will challenge any adverse evaluations they might elect to make.

As part of its response to non-SEC approved raters, such as Dagong, the US could demand greater transparency with respect to data and estimation models. That is, the US Treasury Department could publicly challenge the ratings assigned by these firms and indicate methodological inconsistencies, assumptions, or errors. Also, it is likely that these raters are not privately held, therefore justifying US criticisms about the lack of independence and a conflict of interest in rating assignments.

The US might want to actively track the key determinants of its own rating as used by the major raters. That is, the Treasury Department could act as a kind of auditor, validating the extent to which the raters are actually using their own models correctly. The Treasury could then publicise any inconsistencies in the application of their models by the raters. Additionally, the Treasury could prepare in advance an economic analysis and response to events that are anticipated to influence ratings of US creditworthiness.

Finally, the US might elect to play offense rather than focusing on a defense of its bond rating. That is, the US might elect to attack the creditworthiness of select foreign governments. This can be done by the Treasury department and be directed at the deficit growth, tax revenue collections, and the other factors used in assigning a sovereign bond rating. In some ways, the quality of the arguments by the Treasury might be less important than the fact that media scrutiny is now directed away from the US and is focused on another country. This can be followed up by a carefully staged selling of any US holdings of that nation's securities. Further, the US might indirectly lobby the IMF to issue a warning or advisory to the target country concerning its macroeconomic policies. Any

such action by the IMF can be widely publicised by the US as part of its attack campaign on that country's creditworthiness.

Final Thoughts

The world's capital markets are outstanding mechanisms for the generation, trading, and transfer of wealth. But this work describes how they could be transformed into weapons for the mass destruction of Western wealth and global influence. This threat represents a new kind of warfare against the developed nations of the world, a terrorism based on the intentional manipulation of the sovereign debt market. To defend against it, the US must first acknowledge its potential for success and then understand the many mechanisms through which it might occur. This work has been an attempt to describe one process in the international capital markets that is vulnerable to weaponisation against US interests.

When a terrorist manipulates a country's bond rating, its effect is potentially enormous. Because bond ratings by raters are highly correlated, a downgrade by one rater can have a cascading effect on other raters.[17] Thus, terrorists can focus on having that first rater downgrade, with the expectation that others are likely to follow. Ultimately, bond rating manipulation can directly influence the ability of a country to execute its fiscal policy. A weakened US economy will directly reduce its ability to influence global events. There will be less money available to equip and deploy military forces abroad, less funding available for foreign aid or humanitarian relief, and less prominence in the global capital markets. Given that the goal of terrorism against the US is to reduce its ability to shape world affairs, then bond rating manipulation is a potentially very effective strategy.

There is an irony associated with this kind of terrorism. The strength of the US And its system of government has been its openness and ability to create wealth. This same strength now has the potential to become a US weakness or at least vulnerability in its struggle against terrorism.

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NOTES TO PAGES 61-79

1 For a discussion of how the rating agencies decide to assign a specific credit rating to a sovereign debt issue see Antonio Afonso, Davide Furceri and Pedro Gomes (2011), 'Sovereign Credit Ratings and Financial Market Linkages,' *European Central Bank Working Paper Series*, 1347.
2 The positive relation between risk and expected return is a fundamental principle underlying the pricing of financial securities and is a key component of financial management. See Keown (et al) (2008) for a further explanation of how risk affects the valuation of financial and real assets.
3 For a history of sovereign debt defaults over the last two hundred years see C. Reinhart and K. Rogoff (2011), *This Time Its Different: Eight Centuries of Financial Folly*, Princeton: Princeton UP.
4 Moody's Investors Service (2011), 'Sovereign Default and Recovery Rates, 1983–2010,' 10 May 2011, p. 5.
5 'The Euro deal: No Big Bazooka,' *Economist*, 29 October 2011.
6 International Monetary Fund World Economic Outlook, September 2011.
7 Standard and Poor's, 'Sovereign Government Rating Methodology and Assumptions,' 30 June 2011.
8 Moody's Investors Services, 'Sovereign Bon Ratings,' September 2008, pp. 1-19.
9 Fitch Ratings, 'Fitch Sovereign Ratings: Rating Methodology,' 2002, pp. 1-16.
10 Dagong Global Credit Corp., Ltd, 'Procedures and Methodologies Used in Determining Credit Ratings,' 2010, available at: <http://www.dagongcredit.com/dagongweb/english/cm/p10.php>.
11 Anderlini, J., 'China rating agency condemns rivals,' *Financial Times*, 21 July 2010, available at: <http://www.ft.com/intl/cms/s/0/5632a0b8-94b7-11dfb90e-00144feab49a.html#axzz1my7r66Aw>.
12 Data for this table is drawn from the published sovereign credit ratings of these firms contained on the public websites of Fitch, Moody's, Standard and Poor's, and Dagong.

13 Available at: <http://www.metro.co.uk/news/883969-eurozone-astonished-by-s-psaaa-credit-rating-warning-for-major-powers>.

14 It is well established principle in financial economics that security prices adjust to the arrival of new information. This refers to the efficiency of the capital market and has been extensively researched by Fama (1970, 1991) among others. Dimson and Mussauion (1998) provide a useful and accessible history of this concept. When the media focuses attention and inquiry on a particular bond issue, it will generace news and that will be reflected in both the expected returns and the risk (rating) of the debt.

15 Following the European debt crisis of 2011–2012 and the downgrading of European sovereign debt, there has been an extensive discussion in the international press over the US monopoly of debt rating industry. See, for instance, <http://www.china.org.cn/opinion/2011-08/15/content_23212468.htm>.

16 White (2007) discusses the current state of the SEC's regulation of the credit rating industry and the effect that it has on financial services innovation.

17 This correlation is largely driven by the similarity in the underlying data used by the three major raters. Since all raters are Fundamentals attempting to predict default with their ratings, there is a high degrese of relatedness in their statisitical models. See Afonso et al (2007) for a discussion of the determinants of sovereign ratings issued by Moodys, Standard and Poors, and Fitch.