

SECURITY
FORESIGHT

FUTURE ISSUE

ECONOMIC CRISES

EXAMINING THE SECURITY IMPLICATIONS

*The Hague
Centre for
Strategic
Studies*



FUTURE ISSUE

ECONOMIC CRISES

Examining the Security Implications

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An analysis of security implications of economic crises finds that:

- Economic crises impact the balance of power at both the regional and global levels. Economic crises alter the distribution of power and introduce uncertainties about the future trajectory and stability of the system. The current economic crisis accelerates a shift in the balance of power from West to East.
- Economic crises have a direct impact on defence spending. They thus limit and even alter strategic objectives at both the domestic and international levels. Due to time-lags in defence budgeting and fluctuations in the severity of the crisis, it is sometimes difficult to prove this effect.
- Economic crises cause internal instability and political/social unrest within states. This may have ramifications at the international level. The current crisis has caused internal instability and political/social unrest resulting in a change of governments in a number of countries.

Economic crises also challenge the stability of the international system. Our statistical analysis shows that states experience slight increases in conflict during crisis periods. However, this is not necessarily due to the crisis.

HCSS analysed 76 peer-reviewed academic studies and 42 expert opinions on the security implications of economic crises. Periods of crises show a marked up-turn in the number of studies on this subject. Based on its research, HCSS developed a visual model of the various security implications of economic crises and their transmission through the system, which is featured on page 13.

Figure 1 Trends in Academic and Expert Studies regarding the Security Implications of Economic Crises.

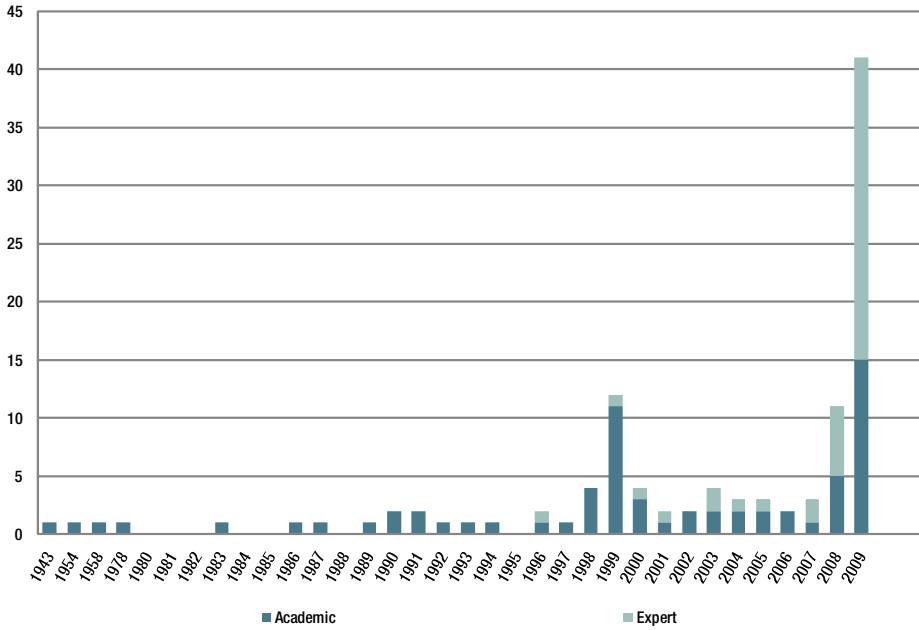
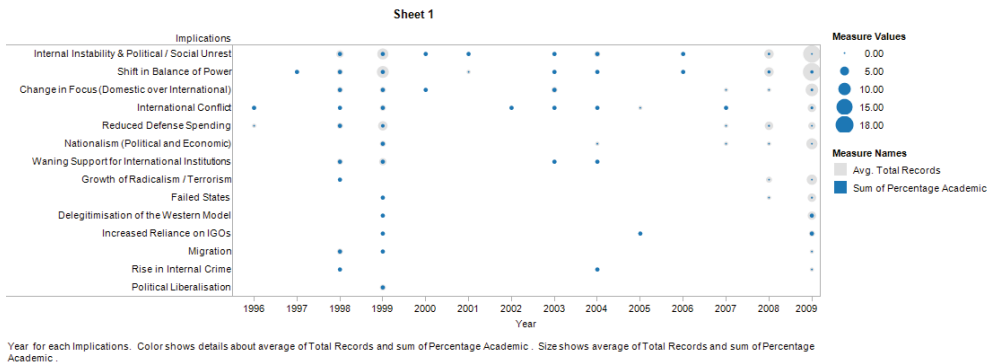


Figure 2 Yearly Trends in Academic and Expert Studies by Security Implication (1996-Present).



THE BIG PICTURE

What impact do economic crises have on security? In the last State of the Future we noted that the discussion in the foresight community started shifting from a focus on the crisis itself to a focus on its medium- and long-term consequences, including global power shifts and international security. In this Future Issue, HCSS takes a look at what the scholarly and expert communities think about the consequences of economic crises on international security. An analysis of a vast array of literature on economic crises throughout the ages – from the Dutch “Tulip Bubble” of 1637 to the present day global economic crisis – reveals that the bulk of the academic literature is focused on the reverse relationship: how international security affects economic performance.

HCSS identified 67 peer-reviewed academic articles (1943-2009) as well as 42 less rigorous sources containing expert opinion (1996-2009) on this topic. While peer-reviewed academic articles typically provide more substantiated analysis, expert opinions often are more useful for timely assessments of the current situation. Figure 1 presents a chronological overview of these studies. Figure 2 provides a breakdown of the studies by security implication.

Key Findings

The security implications of economic crises have not received much attention in the literature. Foresights regarding security implications of economic crises are heavily correlated with periods of economic crisis. The Asian Financial Crisis (1998-1999) and the current crisis (2008-2009) both account for sharp increases of attention in both expert and academic analysis. The slight increase in 2003-2004 relates to the American economic slowdown following the September 11th terrorist attacks. Insights into the security implications of the current crisis largely stem from expert opinion-based studies – more so, than during the Asian Financial Crisis.

Yearly Trends in Studies

Roughly 90% of the studies on the security implications of economic crises were carried out between 1996 and 2009. Figure 2 lists the various security implications by cat-

egory. The size of the circle is proportional to the number of foresight studies, whereas the dark colors represent a higher percentage of academic studies.

Key Insights

A breakdown of the security implications listed in foresight studies shows that the security implications that receive most attention during periods of crises are those already discussed outside of periods of economic crisis. These discussions typically concern domestic instability and shifts in balance of power. During times of crises, the range of implications that receive scholarly attention, broadens.

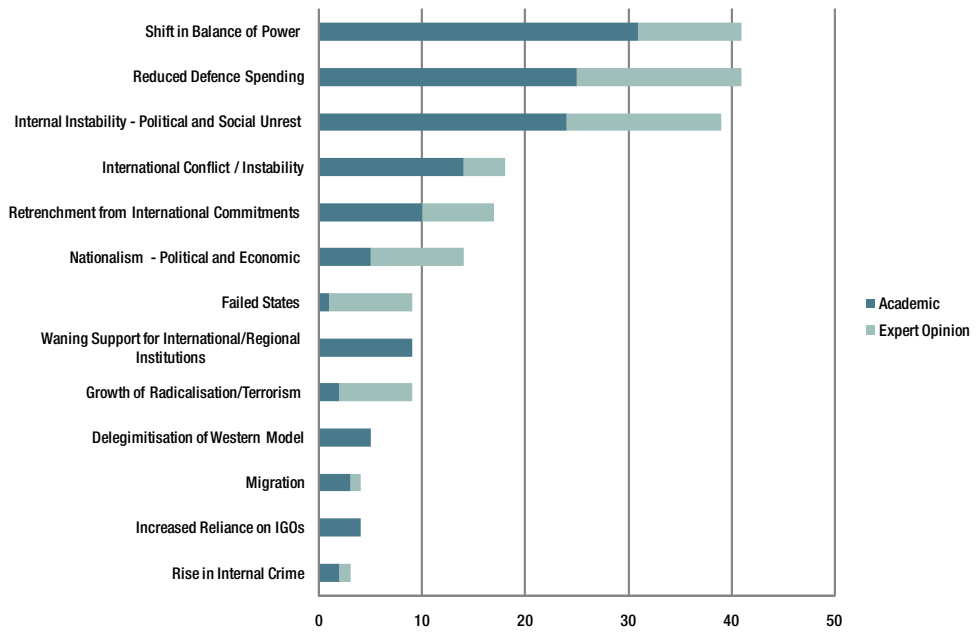
Failed states, nationalism, and growing support for radicalism/terrorism receive a lot of attention in the expert discourse, but lack support from academic research. As figure 2 shows, other implications have robust academic support for the period between 1996 and 2009 (e.g., shift in balance of power).

Delegitimation of the Western model is cited only in academic sources and only during crisis periods. The absence of this implication during non-crisis years suggests that displeasure with the Western model is a transitory phenomenon.

HCSS Assessment

Figures 1 and 2 suggest that economic crises have serious security implications. It is striking, however, that the security implications of economic crises (e.g. failed states, increased terrorism, interstate conflict, etc.) are predominantly examined in periods of economic crisis. This reflects on the existence of ‘presentism’ among the academic and expert communities, which, in this case, led to the relative neglect outside these periods of an event that has a variety of potential grave security implications. Despite the fact that the threat-horizon of security establishments worldwide has expanded considerably over the past two decades –with issues such as climate change and poverty also on the agenda– economics and economic crises did not form part of that horizon up to the current economic crisis.

Figure 3 Frequency of Implications in Academic and Expert Studies.



KEY FINDINGS

This Future Issue analyses the security implications of economic crises and looks at ways in which threats at the national level become internationalised. In this section, we will first identify the main security-related consequences of economic crises (both the robust and the counterintuitive ones) and then fit these consequences into a model.

Security Implications of Economic Crises

Figure 3 provides an overview of the security implications identified in the studies as well as their frequency of occurrence in both the academic and expert literature. It shows the most frequently cited consequences described in the literature in descending order. The analysis illustrates that three consequences stand out: a shift in balance of power, reduced defence spending, and internal instability & political/social unrest. These will be described in more detail below.

Shifts in Balance of Power

The first robust finding (and the leading one in the academic literature) is that economic crises affect the balance of power – both regionally and globally – by creating both threats and opportunities for states. These shifts may manifest themselves instantaneously, but normally take place in a process of incremental steps. The combination of fiscal constraints and an inward focus causes states to retreat from their normal levels of international engagement. While this may not result in full-blown isolationism, states may find themselves in attenuated positions and open to challenge by rival powers. In cases where leading powers are forced to retreat from their position, non-status quo powers that are less (or not) affected by the crisis may seize this opportunity to redraw the lines for spheres-of-influence on the global map. This escalates the points of friction between states competing to fill the space left by the withdrawing power.

States may capitalise on economic crises and make power gains. In addressing increased domestic instability and internal economic problems produced by the crisis, states re-direct their focus inwards by re-nationalising their strategic assets. In turn, states successfully weathering the economic storm are able to take advantage of the opportunities that result from this “retreat to behind the walls” behavior. This affords

them relative power gains and thus alters the balance of power in their favor, which is illustrated historically by the rise of Bismarckian Germany in the 1880s. How states conduct themselves during a crisis has implications for their power position after recovery. The benign assistance to struggling states in times of crises will alter previous held negative perceptions. Such changes can result into the coalescing of new (economic and political) power centres. States that emerge from the crisis either unscathed or in a dominant position will have a greater chance to influence the system. Furthermore, states will gravitate towards a perceived ascendant power. The ascendant state may feel confident in accepting higher levels of risk calculation in its actions. This increases the probability of conflict and conflict escalation. The overarching effect is that economic crises alter the global distribution of power and produce more uncertainties about the future trajectory and stability of the system.

In the vast majority of the literature pertaining to the current economic crisis, the most common theme regarding the shifting balance of power suggests a decline of the hegemon (U.S.) and a rise of contenders (mainly China). Even though in some studies it was presented as such, this does not imply a “snap-bang” relocation of power – more often it is a gradual process leading to a more equitable sharing of power. The role of the hegemon changes and its ability to act alone or direct collective action to maintain order in the system diminishes. A distinction must be made between the changing distribution of power within a system and a challenge for supremacy by a competing system. Our present day situation is defined by the former while the Cold-War era exemplifies the latter. The current economic crisis has accelerated the (pre-existing) shift of power sharing arrangements between emergent and status quo powers within the system, giving the former more influence in but by no means dominance over it. This point will be further elaborated upon in Section III.

Reduced Defence Spending

The next robust finding is that economic crises reduce the availability of funds for defence budgets. Emptied coffers force difficult decisions regarding how best to implement strategic plans – with both domestic and international consequences. On the domestic side, plans to modernise forces are scaled back as military planners can neither afford to purchase new materiel nor expand the numbers of their existing forces. Increasingly squeezed budgets also constrain the ability to conduct military exercises which reduces readiness.

Internationally, economic crises limit the contributions of affected states to international security. Reductions in defence spending also erode a state's ability to project power into regions of strategic interest. It compels policy makers to reassess where and how to balance strategic risk. This reduces a state's ability to meet alliance commitments and weakens its position in the international order. This ultimately shifts the balance of power at both the regional and global level. Decreased military expenditures lowers the demand for weapons procurement, negatively affecting income from arms exports and weapons transfers between allied states. Overall, falling defence spending abates military capacity and capabilities. The literature does not provide any timeline for the duration of decreased defence expenditures, i.e. whether this is directly correlated with the length of the economic crisis, cannot be subsumed.

Internal Instability & Political/Social Unrest

The third consequence of economic crises is the security effect at the state-societal level. Economic crises cause unemployment rates to rise and state expenditures for social services to soar. This produces a dual strain on state budgets as government revenue from taxable income and traded goods are diminished while social programmes require more funds. This can lead to persistent budget short falls. States unable to secure funding through sales of their sovereign debt turn to international organisations such as the International Monetary Fund (IMF) for loans. Eligibility for these loans, paradoxically, requires states to adhere to austerity programs in order to rein in spending. Inevitably, whether through IMF measures or not, social spending programs are scaled back which generates three main effects. First, citizen discontent foments protests and riots against the government. Second, crime rates track with rising unemployment rates and diminishing access to resources. Lastly, ethnic, religious, and class cleavages are exasperated. All three of these effects impose additional burdens upon the state and challenge the legitimacy of the government.

Use of police and security agents to quell social unrest may cause the situation to spiral out of control. These struggles may yield two outcomes for change. Which of these two prevails depends on a number of variables (e.g. the level of political stability and governing structure prior to the crisis, level of economic development, extent of social cohesion, severity of the crisis, etc.). The first outcome is a change in government and/or government structure, while the second outcome is a failed state. The key difference between the two outcomes is whether some sort of effective governing body remains in power, regardless of its form. Within this first outcome, citizen discontent may lead

to either (1) an outright overthrow and replacement of the governing structure, (2) a gradual shift in support for change of the regime and government structure, or (3) just the replacement of the governing party while leaving the structure intact. In all these instances the status quo suffers a backlash from the enraged citizenry but an effective government system remains or is (re) installed. Reorganising the structure of government and/or replacing the regime are generally routes taken in states with authoritarian or restricted democratic governments. Revolutions, coups, or peaceful abdications in the face of mass protests are likely modes to bring about this change. The complexity of the underlying variables complicates making a concrete assessment of whether more authoritarian or democratic governing structures emerge from this struggle. The security implications of regime and structural changes are that they can cause sudden and dramatic shifts in domestic and international policy directions. Established and legitimate democracies tend to be more resilient against upheavals and follow a third path – replacing the governing party while leaving the structure intact. Replacing a governing party during turbulent times increases the likelihood of electoral volatility and may empower reactionary politicians. Although states that experience this type of backlash are susceptible to extremist or nationalistic politicians gaining footholds in the political process, they are more likely to have a constitution preventing the consolidation of power into one office. The significance of a constitution - both written and unwritten - is that it separates the powers of the state and thereby constrains policy options. This curtails the ability of reactionary politicians to drastically alter the course of the state and provides for a greater continuity of policy formation.

The second outcome, a failed state, is overwhelmingly mentioned in expert literature and receives almost no attention in academic sources. Experts fear that states that already experience instability before an economic crisis will be further hampered by its effects. The main attributes of such states are low-level economic development, high unemployment rates, large social cleavages, and weak governments with little authority over most segments of the population. Competition for diminishing resources increases crime and stokes societal fragmentation. Left unabated, this trend unleashes centrifugal forces that may tear apart a society. This not only precipitates the collapse of the government but also undermines the territorial control of the state. The likelihood of a failed state being left in the wake of this violence is elevated, especially if competing societal factions become increasingly polarised and entrenched. The current situation in Pakistan was cited numerous times in the expert literature as a case where this scenario is plausible. The September 11th attacks provide a lesson that even an isolated failed state can have a profound impact on international security.

HCSS Observations

HCSS identified three themes that were not mentioned in the literature. Particularly striking is the near absence of a mention of economic crises leading to growth of political and economic nationalism. This is significant given the widely held belief that World War II was a result of fascist doctrines spurred on by the Great Depression. There is a complete lack of research to support this view in our sample. In addition, the likelihood of failed states and the growth in radicalism/terrorism are effects we expected to find. Given the amount of attention these have received since the September 11th attacks, the meager academic references to them is puzzling. Increased internal crime is an additional tenet affecting security that produced lower than expected findings. Finally, we found that internal instability and political and social unrest is cited more than twice as much as international conflict/instability. This seems to suggest that the experts and scholars place greater emphasis for security implications within – rather than between – states.

Modeling the Security Implications

The previous section listed security implications of economic crises. This section attempts to construct the (implicit) model that emerges from the studies by specifying the linkages between these implications. Many of these interconnections are made explicit within the literature, but a few are derived intuitively.

Economic crises produce a number of events that pose threats to security. Some threats originate at the interstate level while others find their genesis at the intrastate level and subsequently affect the international structure. Many of the threats are interconnected and mapping their relationship is difficult. HCSS has developed the flow chart at page 13 to demonstrate how economic crises introduce instabilities into the system and maps their transmission through it.¹

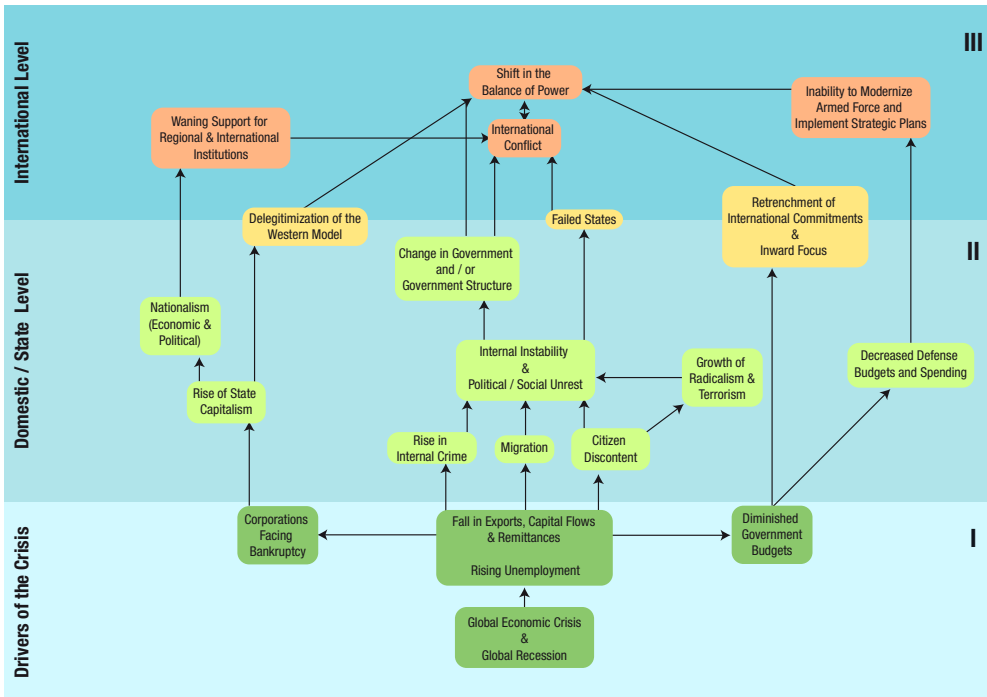
Given the counter-intuitive findings highlighted in the meta-analysis, HCSS decided to subject the following propositions to a number of statistical tests (see the appendices for further explanation)² in order to verify the accuracy of the security implications of economic crises:

- States undergoing an economic crisis act in a more belligerent manner³

- States enjoying better economic circumstances lash out against those enduring an economic crisis⁴
- States undergoing an economic crisis are more likely to experience domestic political instability (e.g. delegitimation of the Western-Model, change in government and/or government structure, political liberalization, etc.)⁵

Initially, HCSS performed statistical hypothesis testing the above propositions. This test examines the difference between the means of two datasets (e.g. number of wars fought per country in economic crisis and number of wars fought per country not in an economic crisis). In doing so, the testing determines if the difference between the two datasets is statistically significant (i.e. the difference is not attributable to random chance). This allowed HCSS to ascertain if economic crises were legitimately associated with higher levels of conflict and political transitions. The downside to this sort of testing, however, is that it cannot determine if economic crises cause more conflict or political transitions. HCSS then performed a regression analysis (either linear or logistic depending on the type of data), which could determine if the behavioral differences between states were the product of their economic climate.

Figure 4 Economic Crises and Security Implications



Hypotheses A & B: Conflict-proneness

The hypothesis testing performed by HCSS substantiates the claim that states experiencing an economic crisis act in a more belligerent manner. States enjoying better economic circumstances, however, do not lash out more often against those enduring an economic crisis. Specifically, the testing showed that states enduring a crisis instigate conflicts at a higher rate (5%), participate in more conflicts (5%), and when they engage in conflict, it tends to be more intense (21%). This, however, is the extent of the relationship. After regression testing, HCSS was unable to corroborate the notion that economic crises by themselves cause international conflicts.

Hypothesis C: Instability

The hypothesis testing indicates that states undergoing economic crisis exhibit greater degrees of internal political instability (e.g. political liberalisation, transition to a more authoritarian regime, anarchy, state failure, etc.) than states not in economic crisis. Specifically, states in dire economic straits were 8.6% more inclined to experience domestic political instability. Again, however, the regression testing showed that this was not a

causal relationship since only a fraction of domestic political instability could be attributed to economic crises.

HCSS Assessment

The above testing confirms that the scholars/experts are technically correct that in periods of economic crises there are moderately greater levels of international conflict and domestic political instability. The testing, however, does not corroborate that security implications are the direct product of economic crises. During periods of economic crisis, the research mainly consists of relatively surface level assessments of previous crises and how the findings apply to the contemporary crisis. The scholars/experts rarely take the time to study the underlying causal mechanisms of the security implications and if these could translate to the current crisis. Therefore, with little truly in-depth consideration of the current crisis, the discourse simply takes “what has happened” in one instance, and translates it into “this is what is going to happen.” Support for this conclusion comes from the Asian Financial Crisis, wherein the security implications were far less severe than those proclaimed by the scholars/experts.⁶ If the scholars/experts were correct, HCSS would expect that the trend (hypothesis) testing would better align with the results of the cause and effect testing.⁷

LOOKING AHEAD

The present economic crisis has a different effect on the analysis of scholars/experts than previous crises. The effect of the current crisis is worldwide rather than regional. Fear of a complete system meltdown seems to be generating a new literature on the security implications and the global system's future trajectory. We attribute this to an intensified threat perception as the world watched the "800 lb gorilla" nearly brought to its knees. This crisis not only heavily affected but was induced by the hegemon, whereas it was not at the epicentre of previous crises. Although the financial crisis (i.e. the systemic failure of the world's banking system) appears to now be a diminished threat, the economic crisis it left behind is still of paramount concern around the globe. In economic terms there has been a renewed usage of the adage, "when America sneezes, the rest of the world catches a cold." In light of the recent events, analysts have scrambled to predict what happens to the world when the US is diagnosed with a financial flu. Will the hegemon still be able to fulfill its obligations (economic, political, and security) as it has since the end of the cold war? Will it continue to act unilaterally when needed or will all its actions become encumbered by multilateralism? Whether the gorilla turns its back on the world or has its hands tied in pursuing its objectives holds important ramifications for the rest of the globe. These ambiguities underlie any assessment of the future security environment.

Shifts in Balance of Power

The current unipolar world is shifting towards a multipolar world with diffuse power centers. The West is losing its prominent position atop of the global order and the balance of power (both political and economic) is shifting from West to East. Shifts in power relations generally imply changes in current international regimes, institutions and organisations and can lead to the creation of new ones. The current economic crisis accelerates the shift in balance of power in this respect.

With increasing power and wealth, emerging economies are demanding more influence in international institutions and organisations. The decision to address the problems of the global financial crisis in the G20 over the more exclusive G8 shows that the West is increasingly reliant upon emerging countries and is willing to give them more influence in the system. As the number of chairs around the table increases, this could potentially make the institutions both less effective and efficient. Yet, a shift is needed in order to

represent the changing distribution of power. If such accommodations do not occur, chances are that emerging economies will create their own institutions and organisations, as the first ever BRIC-meeting June 2009 has shown. If the role and influence of emerging countries are not expanded within the system, the long-term risk is that they may operate outside of the system and compete against it.

During the current recession there is also a risk that emerging economies could gain economic and political influence in strategic sectors through investments made by sovereign wealth funds and state owned banks. This could either have a stabilising effect by creating more interdependence, or a destabilising effect by causing conflicts of interests and sovereignty issues. Either way, the current crisis will quicken the reallocation of wealth from the West to the East and increase the speed of a shifting balance of power. Both examples lead to a decrease in coercive power of the West but this does not imply that the East will anytime soon dominate the world. Furthermore, and despite the hype over the issue, the rise of Asia is not guaranteed. Asia has experienced high levels of growth in recent years, but the region is starting from vastly lower levels than the West. Minxin Pei, from the Carnegie Endowment for International Peace, notes that it will take almost 80 years for the average Asian to equal the income of the average American.⁸ This assessment was made under the best of conditions and at the exceptionally high growth rates that the region has experienced. Those growth rates are directly related to these countries' access to the world economy. Asian countries (even the oft-touted juggernaut China) need the current system and the West in order to continue their growth. They have a vested interest in seeing the system survive, although they would like more influence in it.

The current geopolitical situation in combination with the financial crisis depicts a decreasing power base of the United States. However, this decrease is not enough to cause the U.S. to shrink from its responsibilities as hegemon. The real danger lies in relation to the structure of the U.S. government's budget. The relative power reduction of the US is accelerated due to a higher debt position and a weakening dollar. This in turn could lead to the loss of status as the world's reserve currency. A loss of the dollar as the reserve currency would limit the ability of the U.S. to run exorbitant deficits and force a major realignment of ambition with ability. This would make it increasingly difficult to continue to police the world and serve as the system stabiliser. Currently, China is the number one holder of U.S. debt. One fear over this issue is that China will gain leverage over the U.S. Perceiving itself to be in a newly dominant position, the ascendant state will accept higher levels of risk in its actions. This allows for frozen conflicts to be rekindled. Disputed territorial claims, such as the China-Taiwan issue or ownership of the Spratly Islands⁹, exemplify the potential for conflicts to become hot.

The result of the changing balance of power from a unipolar to a multipolar world in combination with the current economic crisis could be twofold. The world will either enter a mercantilist system, which implies polarisation of international relations between developed and emerging economies and is more prone to open (military) conflicts, or new forms of interdependence - in an "inter-polar" system - which could lead to a new and stronger era of stabilisation. In any case, history is replete with examples that shifting balance of power creates destabilising shocks as states jockey with each other for more influence in the system. Presently, these shocks in combination with resource scarcity could lead to more militarised conflict.

Reduced Defence Spending

The present and future assessment of defence spending shows mixed signals. Economic factors have a direct effect on defence spending. British defence and security expert Malcolm Chalmers posits that due to increased social security outlays and budget shortfalls, the UK's MoD will have to reduce their budget by circa 10-15 percent for the period 2010-2016.¹⁰ That assessment is taken under the current situation in the UK and those cuts could deepen even further if the economy does not recover soon or if the government decides to allocate more money to social programs. The effects of these cuts are going to have real consequences for the MoD in its operations, pay, procurement and capabilities. On the other hand, the Danish government has decided in July 2009 to increase its defense budget by 3.5 billion Danish Kroner (ca. €470 m) for the period 2010-2014.¹¹ This increase is mainly marked for supporting Danish soldiers overseas, and rather than buying more weapons systems with this increase, the government has asked the military to scale back its spending by reducing the number of combat vehicles and aircraft.¹² So while economic crises can produce downward pressure on defence budgets, addressing the negative security implications stemming from economic crises may require the maintenance (or even increase) of defence spending.

According to the Stockholm International Peace Research Institute's (SIPRI) latest findings, global military expenditures have risen (with the exception of Western Europe) despite the negative effects of the economic crisis.¹³ (This may be due to a time-lag as budgets are usually set out a year in advance and projects in the pipeline may still be receiving funding until spending cuts become operational). The report notes that smaller weapons importers, such as Malaysia, Morocco, Thailand and Venezuela may hold-off on acquiring big-ticket items.¹⁴ The effects of the current crisis have hit some countries harder than others and this may have an effect on defence budget spending levels – but it is far from uniform across all states. The effects of the economic crisis will continue

to stir debate between politicians and defence analysts over how to appropriately fund, assess and implement strategic objectives.

Internal Instability & Political/Social Unrest

The current crisis has already resulted in internal instability and social and political unrest. In Europe (e.g. France, Spain), protests and riots have been held by citizens angry over their government's handling of the financial crisis and their loss of employment. Citizen discontent in five countries (Belgium, Iceland, Latvia, Hungary, and the Czech Republic) has pressured governments to either hold elections or accept resignations from government leaders. This has led to the replacement of governing parties but has not had an effect on the governing structure. These states were particularly hard-hit by the financial crisis and represent the first-tier casualties from its effects. Each of these five states has an established history of democracy and relatively high levels of economic development, both factors which mitigate the likelihood of state collapse.

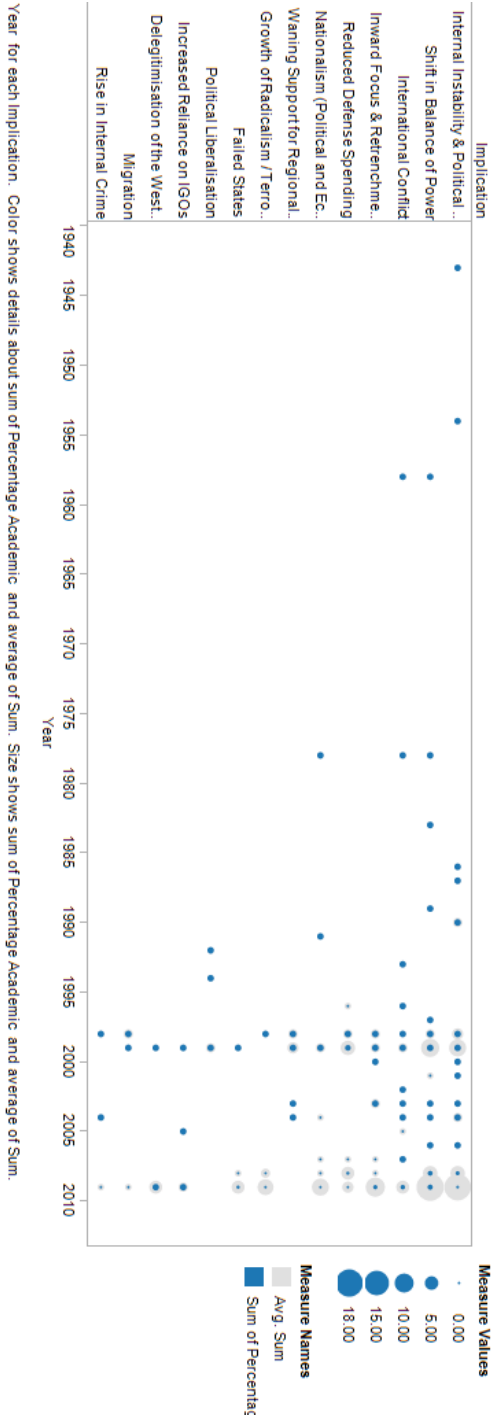
Now that financial stability appears to have been regained, governments are turning their attention to the ensuing economic crisis. In March of this year, the WTO predicted a nine percent drop in global trade, the largest such decline since World War II.¹⁵ Decreasing global trade will have a truly global impact whereas the financial crisis was mainly contained to the centre, leaving the periphery relatively untouched. If the above mentioned events are a harbinger of what is to come, emerging market economies and newly established democracies may not fair so well. Emerging market countries are more susceptible to internal instability due to having less financial means to tackle social problems. States with newly formed democracies are also at risk as the political system may not be mature enough to contain citizen discontent. This could fuel dissatisfaction with governments and, in the case of Pakistan for example, social-political instability. As the economic crisis expands, more states will have to grapple with its effects. According to the Fund for Peace's "Failed States Index," from 2006 to the present year their list of "Alert" status states has 10 new members (28 in 2006 to 38 in 2009), while their "Warning" group has added 15 states (78 in 2006 to 93 in 2009)¹⁶. The growth of these two categories in conjunction with the on-going crisis provides ground for concern. Failed states not only produce instabilities at the state and regional levels, but can also cause liabilities at the international level. Moreover, a weakened, internally focused hegemon may not have the resources or the appetite to intervene and provide stability.

CONCLUSION

Economic crises produce challenges to the stability of the international system. However, these challenges are not necessarily as dire and diverse as the available literature purports them to be. The three challenges most commonly mentioned are the impact of economic crises on the balance of power, levels of defence spending, and internal instability and political/social unrest. Economic crises affect the global balance of power and introduce uncertainties about the future trajectory and stability of the current system. Additionally, economic crises affect the level of defence spending and thus can limit – and even alter – strategic objectives at both the domestic and international levels. The effects on defence spending are time-lagged, however, and are expected to manifest themselves over the course of the next few years. At present, this has already resulted in numerous cases of electoral volatility and regime change, and an increased risk of failed states. The economic crisis thus carries a number of implications both at the international and the national level for security and business continuity.

A STUDY OVERVIEW

Figure 5 Yearly Trends in Studies by Implication



Hypothesis Test 1 : Origination of Conflict

Ho: States instigate the same number conflicts irrespective of their economic condition

Ha: States enduring economic crises instigate more conflicts than states enjoying better economic times

	N	Mean	StDev	SE Mean
Conflict Originator - Crisis	1659	0.336	0.473	0.012
Conflict Originator - No Crisis	8015	0.285	0.452	0.005

Difference = μ (Conflict Originator - Crisis) - μ (No Crisis - Conflict Fought)

Estimate for Difference 0.0511

T-Test of Difference (Crisis > No Crisis)

T-Value 4.04

P-Value 0.000

DF 2326

The p-value is less than 0.01.⁷ Therefore, one must reject the null hypothesis that states exhibit the same amount of belligerent behavior irrespective of their economic situation.

Regression: Origination of Conflict and GDP per Capita Growth

HCSS tested the following

GrowthYear 0-1* + GrowthYear 1-2 predicts Conflict Origination Year 2

**Note: The lags for the individual regressions were chosen based on statistical prudence. Originally, HCSS started with 1,2,3,4, and 5 year lags. These whittled down based on which lags were statistically significant and which lags could be removed without drastically altering the regression values (betas).*

	N	Mean	StDev	SE Mean
Conflict Originator - Crisis	1659	0.336	0.473	0.012
Conflict Originator - No Crisis	8015	0.285	0.452	0.005

Difference = mu (Conflict Originator - Crisis) - mu (No Crisis - Conflict Fought)

Estimate for Difference 0.0511

T-Test of Difference (Crisis > No Crisis)

T-Value	4.04
P-Value	0
DF	2326

The value of the pseudo R2 is very low, which indicates that the relationship between conflict instigation and GDP per capita growth is not explained well by regression modeling. Therefore, a legitimate direct cause and effect relationship cannot be established.

Hypothesis Test 2 : Intensity of Conflict

Ho: The intensity of a militarized conflict is irrespective of the instigator’s economic growth levels.

Ha: States enduring economic crises instigate hostilities with greater intensity’s than those states enjoying better economic times.

The p-value is less than 0.01. Therefore, one must reject the null hypothesis that states exhibit the same level of belligerent behavior irrespective of their economic situation.

Regression: Hostility Levels and GDP per Capita Growth

Maximum Hostility Level - Conflict Originator = 1.01318 - 0.818 * GDP per Capita Growth

	Coef	SE Coef	T	P
Constant	1.01318	0.0177	57.24	0.000
GDP per Capita Growth	-0.8185	0.2696	-3.04	0.002

S = 1.67436

R-SQ = 0.1%

R-SQ (adjusted) = 0.1%

Given that the only 0.1% of the data can be explained by the model, this notes that economic crisis has an extremely weak direct cause and effect relationship with the level of belligerence exhibited by states.

Hypothesis Test 3: Conflict Participation

Ho: States participate in the same number conflicts irrespective of their economic condition

Ha: States enduring economic crises participate in more conflicts than states enjoying better economic times

	N	Mean	StDev	SE Mean
Conflict Participant - Crisis	1659	0.367	0.482	0.012
Conflict Participant - No Crisis	8015	0.316	0.465	0.0052

Difference = μ (Conflict Participant - Crisis) - μ (No Crisis - Conflict Participant)

Estimate for Difference 0.0505

T-Test of Difference (Crisis > No Crisis)

T-Value 3.9

P-Value 0.000

DF 2338

The p-value is less than 0.01. Therefore, one must reject the null hypothesis that states participate in the same number of conflicts irrespective of their economic situation. This finding also suggests that states enjoying better economic times do not militarily lash out against those suffering from an economic crisis.

Regression: Conflict Participation and Economic Growth

HCSS tested the following assumption:

GrowthYear0-1 + GrowthYear1-2 predicts Conflict Participation Year2

	N	Mean	StDev	SE Mean
Maximum Hostility Level - Crisis	1659	1.17	1.79	0.044
Maximum Hostility Level - No Crisis	8015	0.96	1.65	0.018

Difference = mu (Max. Hostility Level - Crisis) - mu (Max. Hostility Level – No Crisis)

Estimate for Difference 0.2114

T-Test of Difference (Crisis > No Crisis)

T-Value	4.44
P-Value	0
DF	2276

Given that the pseudo-r2 value is extremely low, this indicates that conflict participation and economic growth are not tightly linked. As such, HCSS could not establish a viable cause and effect relationship directly between economic crises and participation in conflict.

Hypothesis Test 4 : Domestic Political Instability

Ho: States experience similar levels of domestic political instability irrespective of their economic condition

Ha: States enduring economic crises have higher levels of domestic political instability that those states enjoying better economic times.

	N	Mean	StDev	SE Mean
Domestic Political Instability- Crisis	1659	0.196	0.397	0.0097
Domestic Political Instability - No Crisis	8015	0.11	0.313	0.0035

Difference = μ (Domestic Political Instability- Crisis) - μ (Domestic Political Instability - No Crisis)

Estimate for Difference 0.0861

T-Test of Difference (Crisis > No Crisis)

T-Value 8.32

P-Value 0.000

DF 2103

The p-value is less than 0.01. Therefore, one must reject the null hypothesis that states exhibit the same level of domestic political instability irrespective of their economic situation.

Regression: Internal Political Instability vs. GDP Growth

HCSS tested the following assumption:

GrowthYear0-1 + GrowthYear1-2 + GrowthYear 2-3 +GrowthYear 3-4predicts Internal Political Instability Year 4

	N	Mean	StDev	SE Mean
Conflict Participant - Crisis	1659	0.367	0.482	0.012
Conflict Participant - No Crisis	8015	0.316	0.465	0.0052

Difference = mu (Conflict Participant - Crisis) - mu (No Crisis - Conflict Participant)

Estimate for Difference 0.0505

T-Test of Difference (Crisis > No Crisis)

T-Value	3.9
P-Value	0
DF	2338

Since the pseudo-R2 indicates a poor fit, it should be noted that a viable cause and effect relationship directly between economic crises and domestic political instability could not be substantiated.

1. There are two notes concerning the flow chart. First, the theme “Increased Reliance on IGOs” has been omitted from the flow chart as it was only mentioned in four instances and both its security implication and its linkage to the system was never made explicit. Second, “Inability to Modernize Armed Forces and Implement Strategic Plans” has been broken out from “Decreased Defense Budgets and Spending” in order to demonstrate its transmission from the state level to the international level. In our analysis it was treated as a sub-category of the latter.
2. In general, the tests are being run from 1800 until 2009; however, the length economic data for countries largely varies based on region. The developing world encompasses 1950 to 2006, whereas the developed world largely extends from 1800 to 2006. All tests are run with a natural 1-year lag, which comes from the growth rate. A state is considered to experience an economic crisis if it has a negative GDP-growth of five percent. For further information about the tests and the dataset, please contact George Boone through HCSS.
3. The data for this test comes from; Angus Maddison (2009), “Statistics on World Population, GDP and Per Capita GDP, 1-2006 AD,” <http://www.ggd.net/maddison/> (accessed 25 May 2009); Faten Ghosn, Glenn Palmer, and Stuart Bremer (2004), “The MID3 Data Set, 1993–2001: Procedures, Coding Rules, and Description,” *Conflict Management and Peace Science* Vol. 21:133-154.
4. *Ibid.*
5. The data for this test comes from; Angus Maddison (2009), “Statistics on World Population, GDP and Per Capita GDP, 1-2006 AD,” <http://www.ggd.net/maddison/> (accessed 25 May 2009); Monty G. Marshall and Keith Jaggers (2008), “Polity IV Project: Political Regime Characteristics and Transitions, 1800-2007,” Center for Systemic Peace. Specifically, HCSS combined the state failure and regime transition variables to ascertain if there was a notable internal political change.
6. Highly cited article on economic crises: Minxin Pei and Ariel David Adesnik (2000). “Why Recessions Don’t Start Revolutions,” *Foreign Policy*, Issue 118, pp.138-152.

7. HCSS freely admits that time-series logistical regressions should have been done as opposed to a logistical regression. However, owing to some problems with establishing the fit of the time-series logistical regression, HCSS decided to use a simple logistical regression. Despite this flaw, HCSS accepts that since the model fit was so poor for the logistical regressions that it practically could not improve to an acceptable level.
8. Pei, Minxin. "Think Again: Asia's Rise." *Foreign Policy*. 22 Jun 2009. http://www.foreignpolicy.com/articles/2009/06/22/think_again_asias_rise (accessed 9 Jul 2009).
9. For more details about claims over the Spratly Islands see: "The List: The World's Forgotten Territorial Disputes." *Foreign Policy*. Web Exclusive, posted July 2006. http://www.foreignpolicy.com/story/cms.php?story_id=3534 (accessed 9 Jul 2009).
10. Chalmers, Malcolm. "Preparing for the Lean Years." *Future Defence Review*. Working Paper 1, July 2009. http://www.rusi.org/downloads/assets/FDR_Working_Paper_1.pdf . (accessed 19 Aug 2009).
11. A. Rienstra. "Danish defence budget gets major boost." *Ice News*. 4 Jul 2009. <http://www.icenews.is/index.php/2009/07/04/danish-defence-budget-gets-major-boost/> (accessed 14 Jul 2009).
12. *Ibid.*
13. SIPRI Yearbook 2009 Press Material. "Financial Crisis impact on military expenditure, arms production and arms trade." (Background Comment.) http://www.sipri.org/media/media/finacial_crisis (accessed 19 Jul 2009).
14. *Ibid.*
15. WTO: 2009 PRESS RELEASES. "WTO sees 9% global trade decline in 2009 as recession strikes." Press/554, 23 Mar 2009. http://www.wto.org/english/news_e/pres09_e/pr554_e.htm (accessed 9 Jul 2009).
16. "Failed States Index 2009." *Fund for Peace*. http://www.fundforpeace.org/web/index.php?option=com_content&task=view&id=391&Itemid=549 (accessed 28 Aug 2009).
17. Think of p-values as the probability that the dataset being tested could exist if the null hypothesis (H_0) held true. Given the size of the datasets used in HCSS's tests, the p-value must be less than 0.01 in order to establish statisti-

cal significance. Essentially, this means that HCSS is willing to accept 1% risk in its statistical testing.

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