Conflict, cooperation, and the Comprehensive Nuclear-Test Ban Treaty: financial markets as a metaphor for cycles in global security

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The future of international security is as mysterious as the outlook for global financial markets. In both cases, outcomes result from the aggregate behavior of multiple actors. Uncertainty is considerable, and predictions are more often wrong than right. However, understanding past patterns may offer helpful clues about the future.

To improve our understanding of international-security developments, we should explore new conceptual models in international-relations theory. To understand the past and project the future of the nuclear-test-ban regime, we need not just new conceptual models, but also novel observational tools. If, for the time being, it is too ambitious to invent new tools and terminology, we can borrow from other disciplines.

One option is to make use of the methods and terminology used in monitoring and describing market trends. Despite the risks of superimposing market-trends observations and terminology upon international security, we can benefit from the existence of relatively well-defined terms for describing trends. Equally ingrained terminology is mysteriously absent from international-security analysis. The other benefit is the familiarity, at the general level, of the reader with market-trend terms.[2]

This article seeks to apply the conceptual models used to describe market trends to international security. In doing so, it will illustrate the state of play in banning nuclear testing as a key index of the prevailing trend in the ever-changing mix of competitive (coercive or militarized) and cooperative means of achieving security between states.

Indeed, competitive security seems to follow a cyclical pattern of booms and busts. In each new cycle, security is increasingly left to "self-regulating" market forces' of unconstrained competition. Eventually, each cycle ends up with a security "crash" or "correction." It is only in the aftermath of the ensuing *security* "panic" or "recession" or that regulatory, cooperative security tools are belatedly applied. Both the Limited Test-Ban Treaty (LTBT) of 1963 and the Comprehensive Nuclear-Test Ban Treaty (CTBT) of 1996 were put in place as global-security regulations primarily as a result of the bursting of a cyclical competitive-security bubble with near-fatal global consequences. However, history also shows that such cooperative-security arrangements can easily be squeezed out by a new cycle of competition.

Today, leaders and security technocrats again seem paralyzed, as if waiting for the present competitive security "bull market" to run its course before attempting to rein in its excesses. One possible future may be a scenario where a socio-economic depression turns an already-inflated security bubble into a 'super bubble' of competitive security; the kind we have not seen since the 1900s and the 1930s, respectively, with the potential consequences of a *security* "Great Depression"—but with the crucial difference of the existence of large stockpiles of nuclear weapons. The destructive capacity amassed by major powers today, when compared to the arsenals of the First and the Second World Wars, it is clear why all available regulatory tools, including the CTBT, are urgently needed to deflate a potential "super bubble" of competitive security and prevent it from growing into a security Great Depression.

The turn of nineteenth-twentieth century and the 1930s

It is trivial to state that the overreliance on competitive security is as old as humankind. Even a cursory observation might reveal that, from war to war, boom and bust cycles of competitive security were not confined only to contemporary history.

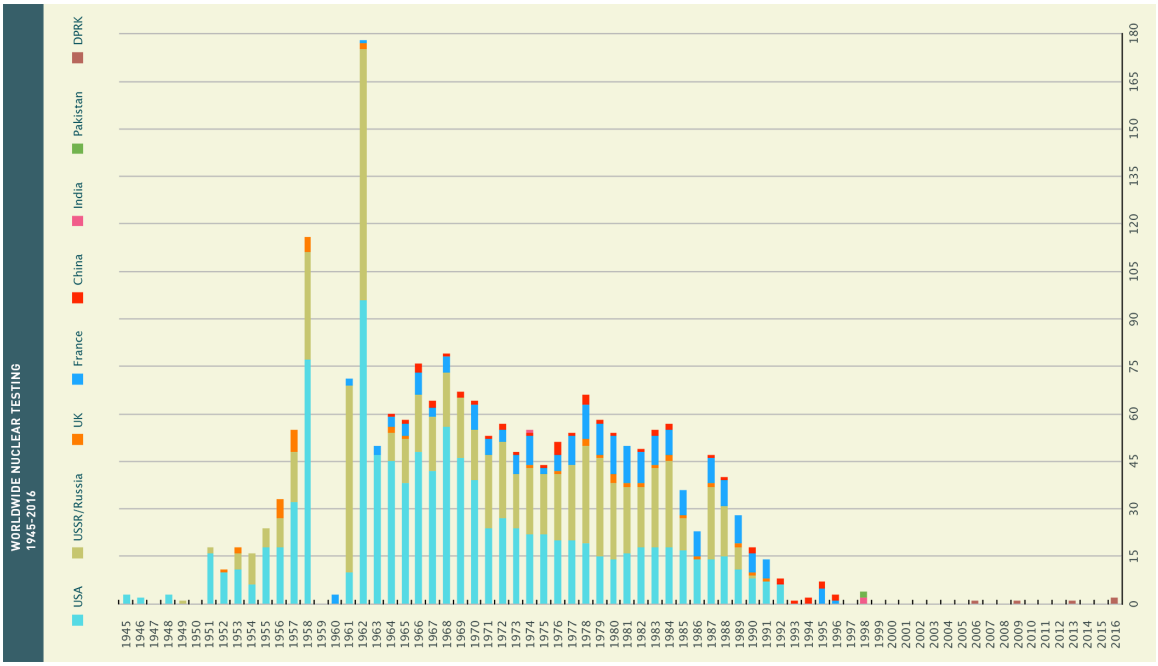
The boom phases of competitive security, like the turn of the nineteenth-twentieth century or the 1930s, have resulted in unprecedented bursts and crashes that cannot be

quantified or qualified by market trends terminology, even by the ultimate market upheaval notion of "the Great Depression." The first and the second world wars were, in fact, global carnages unparalleled in human history.

The abysmal failure of competitive security became a reality in the aftermath of the first and again of the second world war, when the bubble of over-investment in competitive security, sought through aggressive military means and through extreme ideologies, eventually burst. The collective soul-searching that followed those catastrophes added, though half-heartedly, some cooperative security tools to the security toolbox. This is why and how first the League of Nations and—another security "depression" later—the United Nations were brought into life. They were assumed to provide returns on new investments in cooperative security. However, they were rather quickly devalued, totally (in the case of the League of Nations) or partially (as it happened to the United Nations), by a swift return to competitive security and by investment in military might at the expense of cooperative security.

Nuclear testing as an index of competitive security

Reviewing the history of nuclear testing can help to spot competitive security bubbles in the second half of the twentieth century. The cycles of over-investment in competitive security and the consequent build-up of bubbles can viewed through the prism of the nuclear-weapon tests carried out by the United States and the Soviet Union.



In the post second-world-war era, nuclear explosions became a signature weapon, if not the weapon of choice in waging the Cold War. They were the preferred tools for sending "messages in megatons" to the adversary (and to home constituencies) because of their detectability, and thus visibility. The 1961 "Tsar Bomba" alone, at half its potential explosive yield, was 3,000 times more powerful than the bomb dropped on Hiroshima, which killed 80,000 people.

Nuclear testing and test-ban efforts, twice in contemporary history, were motivated by the bursting of a competitive security bubble. A short review of those two instances might help to better anticipate future competitive security bubbles and bursts, as well as crashes.

The "Crash of 1962"

During the 1950s, the number of nuclear warheads in the arsenals of the United States and the Soviet Union increased from around 300 to 20,000. While the United States enjoyed a significant nuclear superiority in this decade, a massive overkill capacity was put in place by both sides. President Dwight Eisenhower bet on "massive retaliation" as

a deterrent and as an alternative to a costly US conventional military build-up. Test explosions were a dimension of the nuclear arms race and a way of sending "mega-messages" to the other side.

From the mid-1950s, leaders of the nuclear-weapon states, alarmed by the possibility that a large-scale conflict could potentially escalate into a thermonuclear war, tried—mostly unsuccessfully—to cool the overheated competitive security boom. In consecutive summits they pursued, though lukewarmly, a nuclear-test ban. In the end, they put in place a test moratorium in 1958. The competitive security bubble that inflated in the course of the 1950s did not burst until October 1962. During the fateful days of the Cuban Missile Crisis the "Crash of 1962" drove the world to the brink of collective annihilation. The very day after the crash, regulation of the previously-unbridled race through a nuclear-test-ban treaty suddenly became not just promptly desirable, but instantly feasible. For nearly a decade, the test ban had been repeatedly pushed aside by major powers, while their leaders gave lip service to it. U.S. President John F. Kennedy and First Secretary of the Soviet Communist Party Nikita Khrushchev finally acknowledged the need for the test ban, but only after the crisis.

In the immediate aftermath of the Crash of 1962, no regulatory adjustment was off the table. Even the most radical regulation, questioned and rejected vehemently up to that moment, suddenly turned out to be realistic: for a couple of months, serious consideration was given to prohibiting tests comprehensively, including underground. However, the panic did not last long enough for the potential comprehensive regulation to prevail. Still, it lingered around persistently enough to result in the LTBT, which was concluded in a record time of just a couple of months by August 1963.

The Crash of 1962 led to the conclusion of further cooperative security regulations, both in the multilateral and bilateral domains, in the course of the next decade or so. Its impact was so profound that it led to the conclusion of a series of disarmament and arms control agreements: Hot Line Agreement, Outer Space Treaty, Treaty of Tlatelolco, Nuclear Non-Proliferation Treaty, Seabed Treaty, Biological Weapons Convention, US-

Soviet Incidents at Sea Agreement, Strategic Arms Limitation Treaties (SALT I and SALT II), Anti-Ballistic Missile Treaty, Prevention of Nuclear War Agreement, Threshold Test-Ban Treaty, Peaceful Nuclear Explosions Treaty, Helsinki Final, Environmental Modification Convention and Moon Treaty.[6]

After a long-term competitive bull market, the period from 1963 until the second half of the 1970s was the first leg of a secular (long-term) "bear market" period for competitive security, when cooperative security tools were relied on more heavily than before.

The "Panic of 1983"

From the mid-1970s, the bull market trends re-emerged again, and another boom and bust cycle of competitive security began. The trend was defined by the Soviet Union's surpassing the United States both in the pace of conducting nuclear tests and in the absolute size of its nuclear stockpile as a result of a relentless growth during the 1960s and 1970s. The quantitative overinvestment was reciprocated and further compounded by a parallel qualitative one: a new round of the nuclear-arms race was unfolding with heavy emphasis on multiple independently targetable reentry vehicles, new counterforce capabilities, intermediate-range ballistic missiles and cruise missiles.

By the late 1970s and early 1980s, the qualitative aspects of the arms race peaked, with increasing fears of undermining nuclear first-strike capabilities. The situation was further aggravated when both sides defined a more aggressive nuclear posture. By 1983, mutual mistrust reached a level unseen since the 1950s, and the new bull market boom became over-heated.

In the autumn of 1983, the combined nuclear stockpile of the two biggest nuclear-weapon states amounted to around 60,000 weapons, three times bigger than in 1962. There was a much higher accumulation of delivery means capable of reaching each other's territories. At the same time, decision-making time for leaders to react to a potentially fatal first strike was reduced from hours to literally a few minutes.

Unlike the Crash of 1962, the Panic of 1983 was not condensed into a brief period of time. It evolved in a cluster of developments, and the bubble burst in the wake of a series of events. The direct context for the events of autumn 1983 was created by the SS-20 vs. Pershing II controversy and the return of a robust cold-war rhetoric on both sides. From early 1981 onwards, psychological operation exercises to test the Soviet Union's reaction to naval and airspace penetration simulations were carried out on a massive scale. In the spring of 1981, the Soviet leadership put in place measures in anticipation of a decapitating nuclear missile attack and possible preemption of such an attack. The year 1983 witnessed the initiation of the US Strategic Defense Initiative, the shoot-down of Korean Air Lines 007 in Soviet airspace, a near-fatal false alarm of the Soviet missile early warning system and the suspension of the INF talks.

The crisis culminated in a NATO nuclear exercise called Able Archer simulating the highest state of alert and a nuclear attack. Only later did the United States learn that the exercise was perceived by the Soviet Union as a *real* DEFCON 1 alert (the highest actual level ever reached was DEFCON 2 during the Cuban missile crisis) and a potential preparation for a *real* attack. Subsequently, the Panic of 1983—generated by all these events, miscalculations and their potential consequences under different scenarios—burst as a psychological shock for leaders.

The overheated bull market brought the world again to the edge of a potential global catastrophe that was avoided more by luck than statesmanship. Only in hindsight did the leaders of the two powers, President Ronald Reagan and, once he came to power, General Secretary Mikhail Gorbachev understand the peril of misperceptions and misunderstandings surrounding nuclear postures on both sides. As in 1962, a market crash with unimaginable potential consequences had to take place before leaders put in place additional regulations to rein in a 'free for all' competitive security market. Once again, post-crash, and only in the aftermath of the Panic of 1983, no cooperative regulatory tool was off the table. In their 1985 Geneva Summit, Reagan and Gorbachev agreed that "nuclear war cannot be won and should never be waged." In 1986 in

Reykjavik, the two leaders nearly reached an agreement on the total elimination of strategic offensive arms. During the next ten years, two dozen multilateral and bilateral disarmament, arms-control, and non-proliferation agreements were concluded—more than in the previous three decades combined.[8]

As for regulating nuclear testing, in 1985, the Soviet Union announced a unilateral test moratorium that, by 1992, had been put in place by both superpowers. The Threshold Test Ban Treaty and the Peaceful Nuclear Explosions Treaty were ratified and entered into force in 1990. The CTBT was concluded in 1996 as the last major regulation to close the decade-long chapter of the competitive bear market.

The cooperative security regulatory tools put in place in the wake of the Panic of 1983 and the trust surplus created between major powers in the second half of the 1980s significantly contributed to the peaceful management of the geopolitical changes of 1989–1991, when the socio-economic and political system imploded in Eastern Europe and then in the Soviet Union. Geopolitical changes of such a magnitude, both in contemporary and not-so-contemporary history, usually have happened only as a result of major wars or other major upheavals with devastating human and material costs. Important reconciliation opportunities stemming from such a trust surplus in cooperative security unfortunately remained unused by major powers in the 1990s. Nonetheless, it has not been fully understood and appreciated that the 1989–1991 transition was peacefully managed due to regulatory tools put in place from the mid-1980s and to a regulated competitive security bear market.

The mid-1980s to mid-1990s represented the second leg of a secular (long-term) bear market, with the mid-60s to mid-70s being the first leg. But in the second half of the 1990s, another boom cycle of competitive security began. It has turned out to be a secular (long-term) one with no end or even deceleration in sight as of today.

The Super Bubble?

Since the second half of the 1990s, there has been growing political, material, financial and psychological over-investment in military might. A bull market of competitive security emerged again and has been systematically eroding cooperative security ever since.

The long-term bull market trend has been defined by several drivers that started to unfold from the second half of the 1990s:

- In the aftermath of the Cold War no genuine reconciliation took place between the United States and Russia and the outcome of the Cold War was perceived, rightly or wrongly, as "winner-take-all."
- The bipolar security competition morphed into overlapping clusters of regional and sub-regional competitions with many actors: Middle-East, South Asia, East Asia and Asia-Pacific in general. For the last decade of the cycle, the United States–Russia competitive security dimension re-emerged as well.
- New and emerging major or regional powers have perceived security regulations in place as discriminatory or disenfranchising.
- Weapons of mass destruction (WMD) have become a leverage option for countries not trusting international security arrangements or major players.
- Revelations of hidden WMD programs have questioned how water-tight the comprehensive prohibition regimes are, and have raised the issue of whether more partial (non-proliferation, counter-proliferation, export control and sanctions) and more informal (unilateral, coalitions of the willing) regulations are not providing a better return.
- Controversies of compliance with special WMD disarmament regimes in Iraq were perceived as a springboard for intervention from the second half of the 1990s onwards.
- Humanitarian intervention came to the forefront as a result of international soul-searching after the 1994 Rwandan genocide. The contradictions between the humanitarian demand to intervene and the authorization needed from the UN Security Council became a divisive issue between major players, especially in the context of Kosovo, Iraq, Libya and Syria.

- The World Trade Center bombing (1993), Oklahoma City bombing (1995) and Aum Shinrikyo attack (1995) changed the threat perceptions in general and the focus of WMD regimes in particular (from state-level comprehensive regulations to sub-state level targeted action).
- Deregulation or lack of regulations became the dominant trend across the board in general (financial, economic, environmental, etc.) from the second half of 1990s onward.

As for nuclear testing, the competitive market trend has played out regionally, in particular, in South Asia and East Asia through test-series by India and Pakistan in 1998, as well as by North Korea in 2006-2016. The map below, showing the countries not accepting the test regulation, might further reveal the faith key global players retain in unregulated or not so well regulated competitive security in a wider context. Again, the fate of the test-ban, *i.e.* the continued impasse of the entry-into-force of the CTBT at this time in history, is a reliable market indicator about the state of play between competitive versus cooperative security.

Latest Ratification: Republic of Angola on 20 March 2015

	SIGNATORY STATES	RATIFYING STATES	NON-SIGNATORY STATES
TOTAL STATES 196	183	164	13
44 STATES LISTED IN ANNEX 2 TO THE TREATY	41	36	3

The boundaries and presentation of material on this map do not imply the expression of any opinion on the part of the Provisional Technical Secretariat of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO PrepCom) concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

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The two-decade bull market of competitive security has become by now a secular (long term) trend and does not seem to be close to running out of momentum. It has been accelerating and becoming increasingly overheated, especially in recent times. A potential bubble has been created with the corresponding decline in multilateral and bilateral WMD security regulations and oversight. An important manifestation of the WMD regulation and trust deficit is that during the last two decades only two treaties were concluded between the United States and Russia—the Moscow Treaty and New START—while the ABM treaty was rescinded and no multilateral treaty was put in place.

These circumstances now require closer attention from policy makers. The implications of this long-term trend in international security go beyond the test-ban regime. As pointed out earlier, breakthroughs of the test-ban in the past were always made at the junctures of "day-after" collective survival and soul-searching. Today, such a post-crash redemption cannot be foreseen. The reason is that, at this time in history, we are faced with two differentiating features, when compared to past security market crashes.

First, the competitive security super bubble now being inflated is showing more similarities with the characteristics of the first half of the twentieth century security depressions (first and second world war) than with the contemporary ones. Both the Crash of 1962 and the Panic of 1983 were about geopolitical competition. The present situation, similar to the turn of the 1900s and the 1930s, is accompanied and potentially further fueled by multilayered clusters of crises. These do not merely affect socio-economic stability worldwide, but may be turning into a global crisis of faith in the ability of societies to solve their problems by conventional means. In the first half of the twentieth century, such a crisis of faith allowed extreme political forces to attract popular support with the promise of an easy exit from "unsolvable" crises. These events led to major upheavals and wars—with consequences no one can forget.

Second, while the "super bubble" is more reminiscent of the first half of the twentieth century, today's leaders should remind themselves of military and technological

differences. One nuclear device can deliver ten times more destructive power than all the explosives used in the Second World War, and thousands are deployed today. Far less room for error is available.

Efforts are needed to cool an overheated competitive security market and reverse the trend of accelerating investment. Cooperative security approaches and tools are needed urgently.

One global-security regulatory tool that is instantly available and significant as a counter-cyclical stabilizer is the CTBT. It should be brought into force without delay through ratification by the United States and China and the other remaining six states individually or in clusters. Its well-tested verification regime will have to be commissioned. Its potential, not just as a global cooperative security regulation but also as a system for warning and mitigation of both natural and man-made disasters, can then be further enhanced.

Adherents of Realpolitik will be quick to object that the CTBT's ratification and entry-into-force in particular, or other regulations in general, are not in the realm of reality. But in light of a prospective cyclical security crash unseen since the first half of the 20th century, leaders would be well-advised to make the impossible possible—this time without waiting for an after-the-fact "never again" ritual of redemption.

Global security in the face of today's nuclear arsenals is the ultimate "too big to fail" phenomenon. The consequences of nuclear war dwarf those of any financial crisis. When it comes to the world *economy*, world leaders have labored persistently to prevent today's recession from turning into tomorrow's depression. To prevent the world from sleep-walking into a cyclical *security* crash and Great Depression, cooperative action of a similar magnitude and determination is needed now.

The CTBT is far from the sum total of a cooperative-security agenda. Its counter-cyclical potential would be best realized in combination with other disarmament and

non-proliferation regulations. The spirit of the mid-1960s and the mid-1980s—when no cooperative tool was off the table, prevention of war and nuclear war was not an outdated concept, and disarmament and arms control were *en vogue* regulatory tools—is needed again.

The world cannot count on the luxury of a new motivating close call before it adopts a grand strategy of cooperative security. That strategy should be as unapologetic as President Kennedy's, encapsulated in his June 1963 American University speech, where he announced a nuclear-test moratorium and negotiations on the CTBT:

We shall also do our part to build a world of peace where the weak are safe and the strong are just. We are not helpless before that task or hopeless of its success. Confident and unafraid, we must labor on—not towards a strategy of annihilation, but towards a strategy of peace.

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[2] Terms like cycles of boom and bust; bubbles inflated and burst; market adjustment, crash, panic, crisis, recession and depression; bull and bear markets; secular (couple of decades) and primary (couple of years) timeframe.

[6] See the list in Arms Control and Nonproliferation: A Catalog of Treaties and Agreements, Congressional Research Service, pp. 62–63.

[8] Ibid., pp. 63–65.