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DIIS Brief

The Spread of Missile Technology and its Countermeasures

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Introduction

The proliferation of missiles is commonly viewed as one of the most pressing international security issues and has been a key concern in the arms control and proliferation debates over the past decade. This has occurred at the same time that apprehension about the horizontal spread of weapons of mass destruction (WMD) has risen, and the two issues have become closely related in formulations of potential threats, as well as in existing attempts to regulate the spread of missile technology and parts.

Missile development is of concern in a number of volatile regions around the globe, but also for the United States (US) and Western Europe which fear long range attacks from various states. Missile proliferation has thus been the motivation behind the drive for a missile defence shield by the US, in itself a contentious development that is having its own complicated impact on international security and stability.

It is the specific attributes of ballistic missiles that have come to make them popular among possessor states, but also objects of grave concern for the arms control community. Ballistic missiles are capable of traveling vast distances in very little time, have a relatively high level of targeting accuracy, and can carry payloads of substantial size, making them ideally suited to the delivery of nuclear weapons. Indeed it is their history during the Cold War, where they were developed by the nuclear weapon states (US, the Soviet Union/Russia, Britain, China and France) to carry nuclear warheads (often multiple warheads), that continues to characterize them today.

The range of ballistic missiles varies greatly: those that can travel up to 1000 kilometres are designated as short range; those covering a distance from 1000 to approximately 3000 kilometers are designated medium range; those from 3000 to approximately 5,500 kilometres are designated intermediate range; and those that can travel distances in excess of 5,500 kilometres are designated as long range, or inter-continental, missiles. Around 30 states are known to possess short and medium range missiles, but only a very few have been able to develop and successfully test long range missiles.

Missile Development: what and where is the threat?

The more widespread presence of short and medium range missiles, and the much more limited spread of long range/inter-continental missiles immediately reveal two key aspects of the present debate on the threat of ballistic missiles. (See Figure 1 for a listing of the main possessor states.) The first is that the problem of missile proliferation is very much one that has an impact on particular *regional* areas, that is, where short and medium range missiles threaten the security of neighbouring states. This is seen most vividly in South Asia in the tensions between India and Pakistan, and between India and China; in the Middle East where Israel's missile capability is being challenged by neighbouring states such as Iran, Syria and, until recently, Iraq; and in North East Asia, where North Korea's short and medium range missile capability poses security threats to neighbouring states, especially Japan and South Korea. Another concern in this region is the increasing build up by China of its missiles aimed at Taiwan. These regional security dilemmas carry the most potential for destabilization, and it is arguably in these specific cases that the most immediate non-proliferation attention needs to be focused.

The second notable aspect of the missile problem relates directly to the level of global security politics. While there are relatively few long range missile threats to dominant states such as the US and those of Western Europe - because very few states outside these regions possess a long range missile capability - nevertheless the intermediate and long range missile aspirations of states like North Korea and Iran are currently seen as posing a significant threat to the security of these states, especially to the US. Unlike the cases of regional missile proliferation therefore, where the threats are already existing and growing, the long range missile threat is one that is far more limited in scope and is potential in its nature. Thus the tensions that characterized Cold War long range missile fears are quite different to those of today: while China, Russia and the US continue to possess long range missiles, it seems unlikely that these will be launched by these states against each other; it is the new range of the so-called rogue states that are now seen as presenting the greatest concerns for the United States. Even here however, it must be

remembered that any long range missile capability on the part of North Korea and Iran is not well developed, nor does it pose anything like the magnitude seen in the Cold War among former adversaries.

Figure 1: Missile capabilities of main possessor states

	Short range Under 1000km	Medium range 1000–3000km	Intermediate range 3000-5,500km	Long range/ Intercontinental 5,500 km +
United States				•
Russia	•			•
China	•	•	•	•
France	•			•
UK				•
India	•	•	development	development
Pakistan	•	•		
North Korea	•	•		development
Taiwan	•			
Israel	•	•		
Egypt	•			
Iran	•	•	development	
Saudi Arabia		•		
Syria	•			

Responses to missile proliferation

The close association with WMD capabilities has been very important in driving the search for various control measures to limit missile technology and parts. The main measures are examined below:

MTCR: The 1987 Missile Technology Control Regime (MTCR) is the most notable of efforts to do this, and it is not surprising that this was a regime driven very much by the US, the state that has the most to lose from an unfettered development of intermediate and long range ballistic missiles. Signed originally by the G7 states, membership of the MTCR has now increased to 34 states. The MTCR seeks to limit the spread of material and technology that might result in development of a missile capable of reaching anything over 300 kilometers and carrying a payload over 500 kilograms. (This has subsequently developed into a restriction on the transfer of *any* missile, regardless of range and payload capability, to states thought to be developing WMD). It remains the primary tool in halting missile proliferation, and it has been at least partly successful in slowing down the spread of missile technology in some countries. Problems with the regime remain, however. The restrictions do not apply to transfers between the states of the MTCR themselves; moreover there have been instances where members have even transferred material and technology to states outside the regime and of WMD concern (For example, US companies and government agencies, British and French companies had all supplied missile technology to Baghdad, as shown by the dossier submitted by Iraq to the UN in 2002.) Monitoring of transfers is limited, and as the regime is not legally binding, there are no means of imposing punitive measures on violating members. Ensuring compliance with MTCR guidelines by states outside the regime is also problematic: heedless of the MTCR norms, a number of states (North Korea, India, Pakistan, Israel and Iran) developed medium or intermediate range missile programs in the 1990s, while many others expanded their existing programs. In sum, while the MTCR has established important benchmarks and undoubtedly played a role in dissuading and physically preventing the development of missiles in some states by blocking hundreds of proposed transfers, it also remains resented by others who see it as reproducing the inequalities of the nuclear Non-

Proliferation Treaty (NPT) and allowing certain states to retain their missiles while exhorting others to renounce theirs.

INF Treaty: Initiated in 1987, the Intermediate range Nuclear Forces (INF) Treaty, concluded between US President Reagan and Soviet General Secretary Gorbachev, was a milestone in reducing the threat of missiles, this time between two existing and substantial missile powers. It was successful in eliminating an entire category of missiles between the arsenals of the US and the USSR (and subsequently the successor states of the USSR), and was the key agreement which removed the threat of missile attack in Europe between Cold War adversaries. The subsequent ending of the Cold War changed the focus of concern regarding intermediate and long range missiles from one among previous adversaries to one focusing on smaller and less predictable state actors. However, new concerns about continuation of the INF Treaty might mean a return to the deployment of Russian intermediate range missiles in Europe.

HCOC: One means of countering this image of a discriminatory MTCR system and encouraging a wider uptake of the norm of missile non-proliferation was the Hague International Code of Conduct (HCOC) concluded in 2002 by 93 countries, and now signed by 124 states. Creation of the HCOC has helped to spread the principle and norms of the MTCR considerably; while being a useful complement to the MTCR, its value is that it is perceived as an initiative emanating from a group of (European) states rather than from the US. Essentially a rather diluted confidence building program which asks states to make their programs transparent and to give notice of missile launches, the HCOC nevertheless has succeeded in broadening and truly multilateralising the MTCR's idea of non-proliferation to a range of states well beyond the MTCR membership itself, a development which is to be applauded. But while this global norm-building has been important, the HCOC is still seen as relatively weak because of its focus on transparency and its inability to be more forceful regarding non-proliferation.

Two further initiatives are of note, although their impact has been limited to date.

GCS: The Global Control System for the Non-Proliferation of Missiles and Missile Technologies was initiated by Russia, with two meetings convened in Moscow, in 2000 and 2001, the latter attracting 71 states. This was another attempt at creating a process supplementary to the MTCR but from a wider grouping of states. The idea was not well received by the US, and there has been little follow up. One noteworthy element of the GCS was the proposal for the establishment of a Joint Centre for the Exchange of Data on missiles.

UNPGE: In line with concerns about the MTCR being the product of a select group of states, the formation of the UN Panel of Government Experts on Missiles was established in 2000 as an initiative of a larger and arguably more 'global' grouping of countries keen to assert a right to initiate arms control and disarmament measures. Begun in 2001 and undertaken again in 2004, and including both MTCR members and others, it was unable to agree on substantive matters and in reality achieved nothing more than the HCOC process was able to do in 2002. The UNPGE process is due to recommence in 2007, but it is unlikely that it will be able to move the agenda forwards in any substantial way other than by reinforcing existent norms enshrined in both the MTCR and the HCOC.

Additional Challenges:

Problems with even the most robust of the four initiatives outlined above have been noted. Into this picture of inconsistency, uncertainty and generally weak measures must now be added the complications brought by US plans for a missile defence program.

US concern about the spread of missiles had been heightened after the study of the 'Commission to Assess the Ballistic Missile Threat to the United States' (known more commonly as the Rumsfeld Commission). This argued that the US must be proactive in preventing missile proliferation by states such as North Korea and Iran which could, it was claimed, develop a long range capability within five years of

the study's publication in 1998. And although this pessimistic outlook was not shared by all, the Rumsfeld Commission undoubtedly affected the decision to proceed with missile defence plans in the US, Europe and North East Asia. New fears about possible terrorist acquisition of missiles and WMD heightened these concerns.

As advocates of the plan note, a missile defence shield remains essentially a counter-proliferation measure. Paradoxically however, a missile shield might damage efforts to curb proliferation and act as a stimulant for the future spread of missiles. The use of missiles – even if these are couched in terms of 'good' missiles aimed at bringing down 'bad' ones – reinforces a view that the US continues to retain, modernise and use its missile arsenal. More importantly, Russia has argued that such developments in Europe are contrary to previous agreements given by NATO and by the US. On 14 July 2007 Moscow controversially suspended Russia's participation in the Conventional Forces in Europe Treaty; it now threatens to withdraw from the (until now) highly successful INF Treaty. If it does so, and seeks to deploy medium and intermediate range missiles as it did in the Cold War, Europe will see a return to the days when it feared nuclear war on its doorstep.

In addition then to the numerous regional crises involving missiles and the potential of countries like North Korea and Iran to threaten Western states with long range missiles, current tensions between Washington and Moscow mean that the steps achieved so far in missile restraint may well be reversed if missile defence goes ahead.

Conclusion: Ways Forward?

Missile non-proliferation remains an enormous challenge, but notwithstanding the substantial problems noted above, there is probably sufficient goodwill on the part of many states to proceed with such efforts. It will not be possible, given current global realities, to realize highly ambitious goals, but a lot nevertheless can be attempted. A range of developments is possible and some of these are sketched here in very broad terms. They include:

- As a first step, encouraging large powers, and especially the United States, to move away from an emphasis on counter-proliferation measures regarding missiles, and towards existing and potential non-proliferation initiatives. This will mean that for the time being at least, military approaches, such as missile defence, will need to be eschewed, while more attention, energy and resources are put into political and diplomatic approaches. If recent Russian responses are any indication, persistence with a missile shield (in any case costly and unreliable) will yield little of real benefit and will bring about greater missile proliferation. The risks associated with the current focus on emphasizing military and non-treaty means outweigh possible gains from any missile defence shield.

- Shifting away from a discriminatory system of missile non-proliferation and towards one that employs equal rules for all. As with the nuclear non-proliferation regime, the current two-tiered system, which allows one group of states to continue their possession of missiles while denying any such capability to other groups of states, cannot be sustained indefinitely.

- Focusing substantial diplomatic resources on the regional crisis points and encouraging the development of confidence and security building measures between adversaries. Processes of dialogue and trust-building are essential as first steps in conflict prevention. The October 2006 agreement between India and Pakistan to notify each other of impending missile flight tests is a notable development that might be replicated elsewhere also.

- Calling for a ban on the testing of missiles. While a permanent ban is not likely to be achievable, a five year moratorium might be acceptable to many states.

- Extending the Intermediate Nuclear Forces (INF) Treaty to a global level, to dissuade manufacture and testing of medium and intermediate range missiles. This assumes of course that Russia can be persuaded to re-commit to this important process.

- Promoting the idea of missile non-proliferation at a greater public level than is presently the case. While weapons of mass destruction remain highly stigmatized, there is no corresponding anathema regarding missiles. Much can be done by non-governmental organizations and Track Two groupings, for instance, in raising the profile of this important aspect of arms control and disarmament.

Given that attempts to curtail proliferation of missiles began in earnest only in the late 1980s, it is likely that much more can be done in terms of creative diplomatic and political processes to further this goal, and that inducements for restraint can be devised. While current global circumstances might not be favourable to many of the steps listed above, such circumstances can change significantly within a few years. When they do, it will be necessary to have some new thinking in place.

Further reading:

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