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Draft Research Design

Hypothesis and Significance

The US currently maintains around 10,000 nuclear warheads, and Russia 8,600, with approximately 6,000 each as strategic weapons. The second-tier nuclear powers of France and Britain maintain 350 and 200 warheads respectively, Britain relying on SLBMs and France combining SLBMs with aircraft delivery systems. China remains on the low end of the second-tier powers, with a nuclear arsenal of around 400 warheads, including 20 ICBMs capable of hitting the US. The US, Russia, Britain, and France have been gradually reducing their arsenals while China's has remained relatively stable for the last two decades. Additionally, China has stayed out of international treaties limiting nuclear weapons, free riding from the US and Russia. What explains the Chinese arsenal size and force structure? Preliminary research suggests the modest size of the Chinese arsenal is primarily a result of a countervalue nuclear doctrine, relying on the strategy of minimum deterrence. Economic and technical barriers are likely secondary explanations, given the lack of a credible submarine-based deterrent, the backbone of the other major nuclear powers.

Given China's status as a rising superpower and the concern this has created for many western observers, China's nuclear arsenal is highly relevant. A continuation of current behavior would provide some reassurance of peaceful intent, while any significant nuclear expansion might be seen as an effort to disrupt the nuclear and global status quo, altering and likely destabilizing relations with the west and regional powers. While countervalue doctrines are much less dependent on the actions of potential

adversaries than counterforce doctrines, some response to changing external circumstances may be necessary to maintain credibility. Understanding the factors that determine the size and force structure of China's nuclear arsenal is thus important for predicting future behavior. Any significant Chinese action will affect the decisions of the major nuclear powers, as well as the regional nuclear powers of India and Pakistan.

Methodology

The literature review has identified four broad theoretical categories determining nuclear arsenal size; practical, military, organizational, and political. Starting with the practical issues, technical and economic effects would be examined. China's apparent problems in maintaining nuclear submarines would be relevant, as well as technical obstacles for miniaturizing warheads and MIRV capability. Economically, budget estimates for nuclear and conventional forces would be juxtaposed with national economic performance to look for potential financial limitations. Militarily, China's ability to engage in counterforce and countervalue conflicts would be analyzed, as well as survivability, flexibility, and credibility. Hypothetical conflict scenarios would be proposed, and China's predicted behavior and performance would be evaluated in light of the current force structure. Analyzing China's publicly stated nuclear doctrines would follow, comparing stated doctrine with real military capability. Organizational factors would be next, looking for tendencies towards bureaucratic politics, effects of standard operating procedures, or the military-industrial complex. Last, domestic and international political effects would be analyzed. Arsenal size is unlikely to be significant domestically given China's centralized government, but international behavior could be analyzed for real and perceptual consequences. This comprehensive approach would offer a detailed

explanation of current force structure, as well as providing guidelines to predict future behavior.

An emphasis on countervalue doctrine, combined with a degree of economic and technical limitation is expected to offer a fairly robust explanation of Chinese force structure. Historically, by the time China went nuclear in 1964, a counterforce doctrine was practically infeasible, given the large leads of the US and Soviet Union arsenals. While this gap remains impossibly large, China has taken few aggressive steps to attempt reduce it, such as a larger arsenal, highly accurate missiles, or MIRVs. Practical limitations cannot be ignored, but offer a very incomplete picture unless doctrine is highlighted. The countervalue doctrine explanation is also strengthened by China's longstanding no-first-use pledge regarding nuclear weapons.

A number of factors could potentially call these conclusions into question. Given the secrecy of the Chinese government, inaccurate intelligence may provide a flawed picture of the existing nuclear force structure. The warhead count and quantity of strategic delivery systems may be higher than previously estimated, which would point towards a more aggressive counterforce strategy. Shifting international conditions (such as US ABM deployment), or internal policy may result in changes to nuclear doctrine, which may or may not be publicly announced. Finally, Chinese nuclear forces may be found to be deployed differently for different potential opponents. For example, China may adopt a countervalue strategy of limited deterrence towards the US, but could simultaneously have a counterforce strategy towards India, a smaller and more vulnerable target. While they are believed to be unlikely, any of these changes or discoveries would

significantly alter assessments of the Chinese nuclear forces, suggesting alternative explanations and predicting alternative futures.