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The effect of North Korean threats on financial markets in South Korea and Japan



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ABSTRACT

This paper examines the effects of North Korean threats, as measured by the proprietary North Korean Threat Index (NKTI), on financial markets in South Korea and Japan. We examine the effects of the threats on stock markets, foreign exchange markets, and overnight interest rates. We consider causality in mean and variance tests to determine any link between the NKTI and financial variables. The causality-in-mean test results indicate the presence of a causal link running from North Korean threats to stock returns and exchange rate returns in both countries, but no significant link to the overnight interest rate in either country. The causality-in-variance test results indicate no significant impact emanating from North Korean threats. Integrating the North Korean economy into the global economy stands to eliminate these threats and thus to contribute to regional financial stability.

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1. Introduction

North Korea is ruled by one of the most reclusive regimes in the world. The economy is under state control with the state deciding production, distribution, and priorities for development. Economic policy has been conducted through a series of national plans. The early plans emphasized postwar reconstruction and the development of heavy industry with little attention given to agriculture until the 1970s. Consequently, agriculture and consumer goods production have suffered under state control. Although North Korea was not a member of the Comecon trade bloc, it traded heavily with Comecon members, particularly the Soviet Union. However the demise of communism in Eastern Europe and the Soviet Union dried up cheap oil imports, and trade with the communist bloc collapsed. Economic mismanagement combined with a series of natural disasters sent the economy into a downward spiral in the 1990s. By 2011, the United Nations agencies estimated that a quarter of North Korea's population was in urgent need of international food assistance due to a substantial reduction in agricultural production and commercial imports (World Food Programme (WFP), 2011). Food is rationed as the country is susceptible to food crises due to political and economic isolation, climate change, and international sanctions.

Hunger and poverty notwithstanding, North Korea, under Kim Jong II, adopted the "kangsong taeguk" ("strong and prosperous nation") policy in the late 1990s, which entailed building a strong military, the power base of the ruling elite.

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Although the country had been suspected of developing a nuclear weapons program since the early 1980s, the program got a boost under the "kangsong taeguk" policy. As decades of economic mismanagement and corruption crippled the economy, the competition for scarce resources intensified. North Korean leaders felt compelled to reorder economic priorities, reallocating resources based on new realities. Not only would development of nuclear arms guarantee the survival of the regime, it would reduce the reliance on costly conventional forces, and hence free resources that could advance economic reform efforts (Funabashi, 2007).

With economic failure and intensifying militarization, the regime uses military threats to accomplish several objectives. First, it has used a confrontational approach to garner concessions, including much needed aid in exchange for adhering to non-proliferation agreements. Second, the regime seeks international recognition as a military power and uses military exercises, weapons tests, skirmishes, provocations, and threats as mediums to accomplish this goal. Moreover, military hardware and ballistic technology exports constitute a significant source of hard currency for North Korea's cash strapped economy². Finally, the isolated and paranoid regime constantly uses perceived threats from abroad and counter-threats to ensure internal cohesion of a population that has experienced poverty, famine, and privation.

The nuclear weapons program pursued by North Korea has been one of the most serious security issues facing Northeast Asia in the last two decades. Hughes (1996) argued that North Korea represents a particularly thorny security problem in that it combines two potentially explosive issues: confrontation on the Korean peninsula and nuclear proliferation. Policymakers of affected nations started to refocus on the North Korean nuclear threats after 1998 as North Korea intensified its confrontational rhetoric. Among the developments that made threats more worrisome were the launch of a missile over Japan in 1998, the announcement of withdrawal from the Nuclear Non-Proliferation Treaty in 2003, the demonstration of a nuclear weapons capacity in 2006, and the testing of a second nuclear device in 2009. Other events include walking away from the six-party nuclear disarmament talks, also in 2009, over disagreements regarding verification of the halt of nuclear weapons programs and the North Korean crisis in 2013, which included an escalation of tensions between North Korea and South Korea, the United States, and Japan.

North Korean threats may cause capital outflows, asset price declines, and reductions in investment in target countries as the impact ripples through financial markets. In this paper, we consider the effects of North Korean threats on stock market returns, exchange rates, and interest rates. We measure stock market returns as the percentage monthly change in the local stock market index, exchange rate returns as the percentage monthly change in the domestic currency value of the US dollar, and interest rate effects as the monthly change in the overnight interest rate.

Seoul's location close to the North Korean border puts its financial sector at foremost exposure to North Korean threats. Japan is somewhat more distant, but for historical reasons ranks high on North Korea's adversary list. North Korea launched a missile over Japan in 1998 to demonstrate its capability of striking the country's major population centers. Moreover, as emphasized by Noland (2006), Japan's financial vulnerability to North Korean actions has increased in recent years due to the decline of extensive cross-shareholdings among Japanese corporations, their main banks, and keiretsu affiliates.

The threats can further cause contagion in the region that amplifies the initial impact on primary target countries. This became apparent after the 1997–1998 Asian crisis where high levels of interregional trade and high correlation among financial markets accelerated the spillover effects of the crisis. Trade is the most direct link, where an adverse shock to one economy can propagate to trading partners through a reduction in the volume of imports and exports. An adverse shock associated with the depreciation of a country's currency may lead to a competitive advantage in traded-goods markets over its rivals with regional ramifications. Financial market linkages may be even more important channels of spillovers because financial markets react more quickly than goods markets to an adverse shock.

Studies of the effects of North Korean threats on financial markets in South Korea and Japan are limited in number, and have generally employed event or scenario based analysis. For instance, Noland (2006) examined the economic implications of North Korean nuclear threats on Northeast Asian countries by using scenario analysis. The results suggest that South Korea and Japan are affected by North Korean nuclear threats. Kim and Roland (2014) considered event-based analysis to examine the effect of North Korean nuclear threats on South Korean financial markets (stock markets, bond yield spreads, and the exchange rate). They considered 26 important events related to North Korean nuclear threats from 2000 to 2008. Their conclusion was that the threats were not perceived to be credible in South Korean financial markets as the events did not result in a statistically significant effect on financial markets.

We contribute to understanding of the effects of North Korean threats on financial markets by considering the proprietary North Korean Threat Index (NKTI) constructed by *NK News* to measure threat activity. *NK News* tracks aggressive and threatening language in articles published by North Korean state media and analyzes the frequency of confrontational words published by the media each day, tracking changes in the tone of the North Korean rhetoric. Given the news media are under strict government control, the tone and intensity of the threatening rhetoric indicate the regime's official policy.

The threat index is presented in Panel (a) of Fig. 1. The first peak in the index occurred at the beginning of 2002 when North Korea reacted to US president George W. Bush's naming of North Korea as part of the "axis of evil". The second peak

¹ According to Transparency International, North Korea along with Somalia has the highest level of perceived public sector corruption in the world (Transparency International, 2013).

² North Korea has exported ballistic missile technology to Libya, Pakistan, Syria, Egypt, Iran, and the United Arab Emirates, among others. See Tan (2015) and the references cited therein

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