Journal of Military and Strategic Studies

VOLUME 17, ISSUE 1 (2016)

States' Motivations to Acquire or Forgo Nuclear Weapons: Four Factors of Influence

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Introduction

Since the invention and first use of nuclear weapons in 1945, predictions on the proliferation of these weapons have traditionally been overestimating.[1] Despite all gloomy forecasts, only nine states nowadays are considered to possess nuclear weapons: the United States, Russia, China, the United Kingdom, France, Israel, India, Pakistan and North Korea. Although more states have operated nuclear weapons programmes at some point in the past 65 years – some experts argue that in total 39 states once engaged in nuclear weapons activities[2] – most of them sooner or later gave up their ambition to acquire these weapons. Especially since the second half of the 1980s the number of states with nuclear weapons-related activities has become relatively low.[3] Taking into account the historical trends, it looks like political and academic forecasts even nowadays tend to be overemphasizing the risks of further proliferation of nuclear weapons in the near

[1] Moeed Yusuf, *Predicting Proliferation. The History of the Future of Nuclear Weapons* (Washington: Brookings Institution 2009).
[2] Benoît Pelopidas, 'The Oracles of Proliferation. How Experts Maintain a Biased Historical Reading that Limits Policy Innovation', *Nonproliferation Review* 18, 1 (March 2011): pp. 297-314, see p. 306.
[3] Harald Müller &Andreas Schmidt, 'The Little-Known Story of Deproliferation. Why States Give University PressNuclear Weapon Activities', in: William C. Potter & Gaukhar Mukhatzhanova (eds.), *Forecasting Nuclear Proliferation in the 21st Century. Volume 1: The Role of Theory* (Stanford: Stanford University Press, 2010), pp. 124-158.

ISSN : 1488-559X

future, for example by predicting nuclear domino effects if new nuclear weapons powers would arise and cause other states to develop nuclear weapons as well.[4]

The difficulties in forecasting nuclear weapons proliferation can be explained by one key factor: it is still unclear among academics and policymakers why exactly states start nuclear weapons programmes or refrain from them. What makes nuclear weapons attractive or unattractive to the leadership of any state? True, many theories exist. The problem with all existing theories on motivations for states to acquire or not to acquire nuclear weapons is that supporting evidence may be found, but opposing evidence as well. When studying nuclear weapons (non-)proliferation, one could consider any state in the world as an individual case, each with its own international and domestic circumstances, and with all the changes herein during history. It is, therefore, not surprising that specific explanations of nuclear behaviour are repeatedly considered inadequate because they fail to account for all cases – currently more than 190 states.

Without understanding what are the motivations of states to aim for or refrain from acquiring nuclear weapons, it is not only complicated to forecast nuclear proliferation dynamics, but even more important: it becomes difficult to develop policies aimed at influencing these dynamics – there is a risk of treating the symptoms while ignoring the disease. This article aims at contributing to answering this key question in the field of nuclear weapons proliferation: why do states wish for nuclear weapons – or not? This will not be achieved by developing a new theory, but by increasing the insights in the large amount of existing theories on nuclear proliferation motivations. For this purpose the many theories developed in the past decades will be grouped into four overarching groups. This analysis could be helpful to future researchers and policy makers who got lost in the current richness in theories and their critics.

Grouping existing theories on nuclear (non-)proliferation motivations has, to a limited extent, been done before. Considering the general lack of unanimity in this research field, it is not surprising that these groupings also differ. To give some examples: a rather early study on proliferation motives by George Quester, dating from 1973, counted three groups of them: 1) military motives; 2) political motives; and 3) economic

[4] Joseph Cirincione, *Bomb Scare. The History and Future of Nuclear Weapons* (New York: Columbia University Press, 2007), p. 108; Johan Bergenas, 'The Nuclear Domino Myth. Dismantling Worst-Case Proliferation Scenario's', *Foreign Affairs*, 31 August 2010; William C. Potter & Gaukhar Mukhatzhanova, 'In Search of Proliferation Trends and Tendencies', in: William C. Potter & Gaukhar Mukhatzhanova (eds.), *Forecasting Nuclear Proliferation in the 21st Century. Volume 2: A Comparative Perspective* (Stanford: Stanford University Press, 2010), pp. 337-353.

motives.[5] Scott Sagan in 1996 also developed a grouping of three 'models' explaining why states wish to build nuclear weapons: 1) security; 2) domestic politics; and 3) norms.[6] Assembling (non-)proliferation into four groups is also possible, as study from 2010 by William Potter and Gaukhar Mukhatzhanova, shows. Summarized, Potter and Mukhatzhanova group all theories on nuclear weapons (non-)proliferation motivations into these four categories: 1) security; 2) international institutions; 3) international norms; and 4) domestic circumstances.[7] Etel Solingen some years earlier (2007) defined the same four groups, but also added a fifth one: democracy versus autocracy.[8] And to mention only one more possible classification: Joseph Cirincione in 2007 also defined five motivations for states to pursue or forgo nuclear weapons: 1) security; 2) prestige; 3) domestic politics; 4) technology; and 5) economics.[9] These are just some examples to show that not only the amount of theoretical groups differs, but also their content. Nevertheless, some similarities can be noticed; although not every author mentions the same motivational factor theories, some overlap can obviously be noticed.

This article groups the existing theories on motivations for nuclear weapons (non-)acquisition in four factors: 1) Capabilities; 2) Security; 3) International Norms & Perceptions; and 4) Domestic Political Context. The article will discuss what they incorporate (including criticism) and why is chosen to group them in this manner. In conclusion some implications and recommendations for further research regarding nuclear (non-)proliferation dynamics will be presented.

Capabilities

The first group of incentives and disincentives for nuclear weapons (non-) proliferation is summarized here as 'capabilities'. Under this umbrella are brought

[5] George Quester, *The Politics of Nuclear Proliferation* (Baltimore & London: John Hopkins University Press, 1973).
[6] Scott D. Sagan, 'Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb', *International Security* 21, 3 (Winter 1996/1997): pp. 54-86.
[7] William C. Potter & Gaukhar Mukhatzhanova, "An Introduction to Forecasting Nuclear Proliferation in the 21st Century," in *Forecasting Nuclear Proliferation in the 21st Century. Volume 2: A Comparative Perspective,* edited by William C. Potter & Gaukhar Mukhatzhanova (Stanford: Stanford University Press, 2010), pp. 3-9.
[8] Etel Solingen, *Nuclear Logics. Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007), pp. 1-20.
[9] Cirincione, *Bomb Scare*, p. 47.

together both the technological and economic capabilities of states to develop nuclear weapons.

Nuclear weapons are not easy to develop, nor are the materials that are required cheap and commonly available. Technologically and scientifically the most challenging and costly is the production of fissile materials (highly enriched uranium or plutonium). Transforming the nuclear materials into reliable and deliverable weapons is another challenge that requires highly advanced technological expertise, and the same applies to developing the delivery systems for the weapons – in this regard, nowadays states generally prefer ballistic missiles.[10] It is often argued that the technological and financial capabilities required for developing nuclear weapons are an effective barrier especially to less developed countries without an advanced scientific and technological infrastructure and without the financial strength to afford the investments needed to start a nuclear weapons programme.[11]

Since Pakistan and North Korea – both relatively poor countries – acquired nuclear weapons in 1998 respectively 2006, this argument has generally faded away from the debate. Actually, the theoretical assumption that capabilities influence the motivation of states to pursue or forgo nuclear weapons, is fading away itself from the academic debate since, approximately, the early 1990s. The capabilities theory is dating back from the first decades of academic research into nuclear motivations and gradually became less popular.

In the first decades of nuclear weapons existence, it was generally assumed that any state would like to have nuclear weapons, simply because these weapons were the most advanced and powerful military tools available. Stephen Meyer in 1984 summarized the consequences of this assumption as follows: 'If one presumes that the incentives to acquire nuclear weapons are ever present – that all countries would like to have nuclear weapons – then the only determining factor becomes technology.'[12] One could also describe the capabilities motivation as a 'why not' principle. When a state has the means available to build nuclear weapons, why should it refrain? When it is, for example, rather easy to convert civilian nuclear technology programmes into military ones, the costs of nuclear weapons may become relatively low enough that the perceived

[10] Stanley A. Erickson, "Economic and Technological Trends Affecting Nuclear Nonproliferation," *Nonproliferation Review* 8, 2 (Summer 2001): pp. 40-54.
[11] Recent examples of this vision are: Cirincione, *Bomb Scare*, pp. 74-76; Zachary Keck, "Why Countries Build Nuclear Weapons in the 21st Century," *The Diplomat*, 3 July 2013.
[12] Stephen M. Meyer, *The Dynamics of Nuclear Proliferation* (Chicago & London: The University of Chicago Press, 1984), p. 10.

benefits – obtaining the most powerful weapons that exist – easily outweigh the negative consequences.[13] Proponents of the capabilities theory regularly claim that scientists often play a crucial role in this process. Ralph Lapp, for example, in 1970 argued that 'research and development has become an almost unchallenged force in directing the nation to arms. We may speak of this as technological determinism.'[14] Hans Bethe in 1985 also pointed at 'the technological imperative' with regard to nuclear weapons development, mentioning the feeling among scientists and government officials 'that we must use this new technology'.[15] In this respect, often an encompassing quotation of Robert Oppenheimer, one of the founders of the nuclear weapons programme of the United States, is presented about developing the hydrogen bomb (an improved kind of nuclear bomb): 'When I saw how to do it, it was clear to me that one had to at least make the thing. [...] The program in 1951 [to develop the H-bomb] was technically so sweet that you could not argue about that.'[16]

The main evidence that the capabilities theory is not explaining nuclear weapons (non-)proliferation adequately is the fact that many countries have become technologically and economically able to develop nuclear weapons, but never did so. The technological 'pull factor' leading to a wish for nuclear weapons often seems non-existent, at least not autonomously. These last two words, 'not autonomously', are important, because it may be assumed that the capabilities factor is still important in determining motivations to pursue or forgo nuclear weapons, even though it may not be a decisive factor on its own. In certain circumstances, the availability of capabilities to develop nuclear weapons may compel the leadership of a state to start a nuclear weapons programme even if it would not have done so when these capabilities were not available. On the other hand, a lack of technological and / or economical means may force state leaders with a wish for nuclear weapons to abstain from starting a nuclear weapons programme – although this is still a choice with its own motivations, because it could

[13] Steven J. Baker, "The International Political Economy of Proliferation," in *Arms Control and Technological Innovation*, edited by David Carlton & Carlo Schaerf (New York & Toronto: John Wiley & Sons, 1976), pp. 70-101, see pp. 97-98.

[14] Ralph E. Lapp, *Arms Beyond Doubt. The Tyranny of Weapons Technology* (New York: Cowles Book Company, 1970), p. 173.

[15] Hans A. Bethe, "The Technological Imperative," *Bulletin of the Atomic Scientists* 41, 7 (August 1985): pp. 34-36.

[16] Cited in Peter R. Lavoy, "Nuclear Myths and the Causes of Nuclear Proliferation," *Security Studies* 2, 3-4 (Spring-Summer 1993): pp. 192-212, 195; Bradley A. Thayer, "The Causes of Nuclear Proliferation and the Utility of the Nuclear Nonproliferation Regime," *Security Studies* 4, 3 (Spring 1995): pp. 463-519, see 480; Cirincione, *Bomb Scare*, p. 73.

always be a possibility to start acquiring the capabilities needed, even when this requires tough choices on how to spend limited state budgets.[17] In this regard, the capabilities to acquire nuclear weapons may perhaps be considered a necessary, but at itself insufficient cause for nuclear weapons proliferation.[18]

Even today, there is no unanimity among scholars on the influence of capabilities on nuclear (non-)proliferation behaviour by states. A striking example of this lack of unanimity can be found in one and the same recent book: in an edited volume on nuclear forecasting, dating from 2010, two contributions come to opposite conclusions on the capabilities factor. A chapter by Harald Müller and Andreas Schmidt concludes that the hypothesis that nuclear weapons proliferation is capability driven ('capability may be defined in economic or technological terms') cannot be validated at all. The authors state: '[...] economic factors are almost completely irrelevant for the initiation of nuclear weapons activities. Rather, it is a question of political willingness to devote a considerable share of state's resources to the military sector instead of, say, strengthening the public welfare program.' And the same applies to technology, they contend: 'There is no indication at all of a technological pull.'[19] In the same volume, however, Philipp Bleek comes to the complete opposite conclusion: 'Economic resources and technical capabilities are powerfully correlated with proliferation proclivity at all levels. More highly developed states, with access to commensurately greater resources and technical capabilities, are more likely to explore nuclear weapons options, launch nuclear weapons programs, and acquire nuclear weapons. Given how costly and technically challenging nuclear weapons development is, this is perhaps not a surprising finding; some might even brand it a resounding reinforcement of conventional wisdom. But it provides robust evidence to counter those who argue, often citing relatively undeveloped countries like China and Pakistan that nonetheless proliferated, that countries' level of development has little to do with their proliferation proclivity. More highly developed countries proliferate more readily; less highly developed countries do so less readily.'[20]

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[17] Andrew O'Neil, "Nuclear Weapons and Non-Proliferation. Is Restraint Sustainable?" *Security Challenges* 5, 4 (Summer 2009): pp. 39-57, see p. 48.

[18] For some more discussion on this issue, see: Matthew Kroenig, Erik Gartzke & Robert Rauchhaus, 'Introduction. The Causes and Consequences of Nuclear Proliferation', in: Robert Rauchhaus, Matthew Kroenig & Erik Gatzke (eds.), *Causes and Consequences of Nuclear Proliferation* (London & New York: Routledge 2011) 1-12.

[19] Müller & Schmidt, 'The Little-Known Story of Deproliferation', 141-144.

[20] Philipp C. Bleek, 'Why Do States Proliferate? Quantitative Analysis of the Exploration, Pursuit, and Acquisition of Nuclear Weapons', in: William C. Potter & Gaukhar Mukhatzhanova (eds.), *Forecasting Nuclear Proliferation in the 21st Century. Volume 1: The Role of Theory* (Stanford: Stanford UNIVERSITY PRESS2010) 159-192, see 178.

Security

The traditionally dominant theory on motivations for states to pursue nuclear weapons or not has been focussing on security. Since the beginning of research on dynamics of nuclear (non-)proliferation this has been by far the most supported factor explaining why states opt for nuclear weapons. The so-called 'realist' school of thinking – in the academic domain of International Relations (IR) in general, but also in the sub-field of (non-)proliferation studies – considers the world as an anarchy. In this anarchy, states are in continuous competition and will only be able to survive as an independent state by 'self-help', which can be summarized as individualistic behaviour, aiming for its own power and benefits and thus strengthening its position in comparison with other states. Following this theory, nuclear weapons are considered to be the ultimate tool for survival, because these powerful weapons will provide the best security guarantee against any external aggression. Any adversary state will think twice before it will attempt to harm the state in question in any way, because this may ultimately result in the nuclear destruction of this adversary itself. The only condition for having a successful nuclear deterrent is that the nuclear weapons arsenal should be so capacious that it cannot be totally destroyed by a surprise attack.[21]

When this realist theory is strictly applied, the conclusion should be that actually all states wish for nuclear weapons to be able to ensure their survival within the current international anarchic system. This may, in the end, be the case, but most realist thinkers agree that developing nuclear weapons is not easy, cheap or without risk. This has culminated into a broadly supported nuance of the theory, acknowledging that only states with actual, pressing security problems will actively pursue nuclear weapons.[22]

[21] For a concise and clear introduction to the realist view on nuclear proliferation, see: Tanya Ogilvie-White, "Is There a Theory of Nuclear Proliferation? An Analysis of the Contemporary Debate," *Nonproliferation Review* 4, 1 (Fall 1996): pp. 43-60, see pp. 44-45; Solingen, *Nuclear Logics*, pp. 24-28.
[22] Quester, *The Politics of Nuclear Proliferation*; Ted Greenwood, "Discouraging Proliferation in the Next Decade and Beyond," in *Nuclear Proliferation. Motivations, Capabilities, and Strategies for Control,* Ted Greenwood, Harold A. Feiveson & Theodore B. Taylor (New York: McGraw-Hill Book Company, 1977), pp. 23-122; Kenneth N. Waltz, *The Spread of Nuclear Weapons: More May Be Better* (London: International Institute for Strategic Studies, 1981); Lawrence Freedman, "Great Powers, Vital Interests and Nuclear

Especially the risk calculation factor is often used to explain why most states so far did not develop nuclear weapons. This explanation is necessary to defend the theory against its critics who state that the realist view cannot explain why so few states did actually obtain nuclear weapons, considering that ultimately all states would want to have them and many of the non-acquiring states have been, or still are, facing obvious security problems. Realist thinkers generally refute this critique by arguing that it is not being claimed that acquisition of nuclear weapons is always the best way to improve a state's security. Sometimes acquiring nuclear weapons may be a bigger threat to a state's security then to forgo them, because a nuclear weapons programme may cause more distrust and tension among (potential) adversaries than would be the case without a nuclear weapons programme. An adversary state may feel so threatened by the nuclear weapons programme that it will launch a military attack to prevent its adversary from acquiring them. Even more, the adversary state may react by developing nuclear weapons itself, thus creating a nuclear arms race and causing even more insecurity and instability in the region. When this may be expected, realists claim, states often refrain from starting a nuclear weapons programme.[23] T.V. Paul labels this 'prudential realism'. In his words, this is a 'soft realist version' acknowledging that 'nations under certain circumstances may prudently forgo military capabilities that other states see as threatening. [...] States are security-conscious entities, but their military policies are driven by 'most probable threat' assessments, as opposed to the worst-case assessments offered by hard realism.'[24]

Moreover, some more nuanced realist approaches also try to explain the small percentage of states actually aiming for nuclear weapons by adding levels of insecurity into the theory. From this point of view, states that are involved in an intense and / or longstanding conflict will aim for nuclear weapons more easily then states within a low-intensity conflict and / or a relatively short period of insecurity.[25]

On the other hand, many examples can be found of states in intense conflict situations that never started a nuclear weapons programme. This, in turn, may be explained by an important variant of the realist school of thinking, which emphasizes the importance of security alliances. This variant has been one of the most supported theories

Weapons," *Survival* 36, 4 (Winter 1994-1995): pp. 35-52; T.V. Paul, *Power versus Prudence. Why Nations Forgo Nuclear Weapons* (Montreal: McGill-Queen's University Press, 2000).

[23] Cirincione, *Bomb Scare*, p. 54; Solingen, *Nuclear Logics*, p. 26.

[24] Paul, *Power versus Prudence*, p. 5.

[25] Paul, *Power versus Prudence*, pp. 14-15; Bleek, "Why Do States Proliferate?" pp. 178-179.

for explaining nuclear (non-)proliferation during the Cold War – and even up to now many analysts favour the alliance explanation to account for nuclear (non-)proliferation dynamics. Instead of developing nuclear weapons to assure their security, proponents of this theory argue, states may also choose another option: seeking for an alliance with a nuclear weapons state that is willing to promise nuclear retaliation in case the non-nuclear ally will be (nuclear) attacked. This kind of security guarantee, often called a 'nuclear umbrella' or 'positive security assurance' makes a national nuclear weapons programme less necessary and the costs, difficulties, and risks associated with it can be avoided. The promise of retaliation by the nuclear armed ally functions as extended deterrence towards possible enemies.[26]

Critics of this alliance theory question the credibility of these extended deterrence guarantees. Extended deterrence may be more or less credible when it functions as deterrence against (overwhelming) conventional military threats, but would any nuclear weapons state risk nuclear warfare because of assisting a non-nuclear ally after an attack by another nuclear weapons state?[27] Joseph Cirincione summarizes this credibility problem as follows: 'National leaders will continue to ask themselves: 'Would the President of the United States risk Washington to protect my capital city?''[28] Moreover, the reliance on nuclear-armed allies seems to contradict the base realist assumption of self-reliance. Jacques Hymans formulates this contradiction in this way: 'At the very core of realism lies the notion that friends today may become enemies tomorrow. [...] Thus, the dominant strategy of states is to go for the bomb themselves and thus avoid any pleasant surprises.'[29]

The so-called Neo-realist theory, developed since the 1970s, combines the importance of security guarantees with the dimension of the international system: whether this system is unipolar, bipolar, or multipolar will influence the value of security guarantees. In a bipolar world like the Cold War era, neo-realists claim, security

[26] Sagan, "Why Do States Build Nuclear Weapons?" pp. 57-58; Bleek, "Why Do States Proliferate?" pp. 178-179; Bruno Tertrais, *Security Guarantees and Nuclear Non-Proliferation* (Paris: Fondation pour la Recherche Stratégique, 2011); Jeffrey W. Knopf (ed.), *Security Assurances and Nuclear Nonproliferation* (Stanford: Stanford University Press, 2012).
[27] Quester, *The Politics of Nuclear Proliferation*, p. 3; Freedman, "Great Powers, Vital Interests and Nuclear Weapons," p. 46; Sagan, "Why Do States Build Nuclear Weapons?" pp. 57-58.
[28] Cirincione, *Bomb Scare*, p. 54.
[29] Jacques E.C. Hymans, "Theories of Nuclear Proliferation. The State of the Field," *Nonproliferation Review* 13, 3 (November 2006): pp. 455-465, see p. 456.

guarantees by one of the two superpowers will generally solve any security concern of other states. In a multipolar world, which arose after the end of the Cold War, the stabilizing role of security guarantees by superpowers is loosened because these superpowers themselves have become relatively less powerful.[30] In a multipolar world states tend to start their own nuclear weapons programme more easily. Neo-realists nowadays have to admit, however, that the number of newly started nuclear programmes after the end of the Cold War has not been that impressive.

Another rather modern realist way to defend the security motivation as principal factor explaining nuclear (non-)proliferation against its critics, has been the 'opaque proliferation' discussion.[31] Especially since the 1990s the concept of 'opacity', 'latency', or 'ambiguity' has become more popular in nuclear proliferation studies. Especially realist thinkers turn around the argument that many states are able to build nuclear weapons, but never did so. They contend that several of these nuclear weapons capable states did, indeed, never develop nuclear weapons up to their final stage – in the end resulting in testing them – but that they in fact developed nuclear weapons without testing them, or at least developed the means to be able to build nuclear weapons in a very short timeframe. This is also called 'threshold capacity' – it takes little time to pass the threshold of nuclear weapons possession. This way, there are more nuclear weapons states in the world then is usually assumed. This assumption can be used to refute the criticism on the realist view on nuclear (non-)proliferation motivations.[32]

An additional phenomenon regarding the security imperative which is sometimes mentioned by academics is that nuclear weapons may provide deterrence against larger states and / or groups of states, but not necessarily against smaller, non-nuclear enemies. In this regard, much-mentioned examples of non-nuclear parties that waged war against nuclear weapons states are Vietnam against the United States, Chechnya against the Russian Federation, and Argentina against the United Kingdom (during the Falklands

[30] John J. Mearsheimer, "Back to the Future: Instability in Europe After the Cold War," *International Security* 15, 4 (Summer 1990): pp. 5-56; Benjamin Frankel & Zachary S. Davis, "Nuclear Weapons Proliferation: Theory and Policy," *Security Studies* 2, 3-4 (Spring-Summer 1993): pp. 1-3.
[31] Hymans, "Theories of Nuclear Proliferation," pp. 456-458; Scott D. Sagan, "The Causes of Nuclear Weapons Proliferation," *Annual Review of Political Science* 14 (2011): pp. 225-244.
[32] Avner Cohen & Benjamin Frankel, "Opaque Nuclear Proliferation," in *Opaque Nuclear Proliferation. Methodological and Policy Implications*, edited by Benjamin Frankel (London & Portland: Frank Cass, 1991), pp. 14-44.

War). Apparently, nuclear weapons are not a hundred percent reliable security guarantee against any military attacks.[33]

One may even argue, as Robert Rothstein did in 1966, that the argument that nuclear weapons offer security is hard to prove at all. Rothstein writes that 'It is the impact of nuclear weapons which is most ambiguous and uncertain. Presumably they are designed to deter any enemy from aggressive actions. But in the circumstances we can only be sure when they fail, for the relationship between successful deterrence and nuclear weapons is hardly clear. Obviously the enemy might never have intended to attack at all or, conversely, could have intended to attack but been deterred by other factors present in the situation. The security argument is thus entirely hypothetical. It concerns what the defender thinks he has achieved in felt security, not what he actually has achieved.'[34] Recent research by Ward Wilson also concludes that there is no evidence in history that nuclear weapons deter enemies to start any conflict: '[...] many people take the peace that's being experienced over the past sixty years as significant proof of the power of nuclear deterrence. But there are some problems. First, proving the something by using the absence of something is tricky. Second, there are other factors that can adequately account for this period of peace [...].'[35]

Last but not least, it should be mentioned that few researchers completely reject the importance of security considerations as influencing (non-)proliferation dynamics. Many analysts recognize that perceptions of external insecurity among state leaderships are a necessary condition for decisions to start a nuclear weapons programme, but that this condition alone is inadequate for explaining these decisions; other motivational factors have to be combined with the security motive.[36]

International Norms and Perceptions

The third group of motivations for states to acquire or not acquire nuclear weapons is in this article titled 'International Norms and Perceptions'. This cluster consists of

[33] Erickson, "Economic and Technological Trends," p. 42; John Mueller, *Atomic Obsession. Nuclear Alarmism from Hiroshima to Al-Qaeda* (Oxford etc.: Oxford University Press, 2010) p. 109.
[34] Robert L. Rothstein, *On Nuclear Proliferation* (New York: Columbia University, 1966), pp. 16-17.
[35] Ward Wilson, *Five Myths About Nuclear Weapons* (Boston & New York: Houghton Mifflin Harcourt, 2013), pp. 87-88.
[36] Rothstein, *On Nuclear Proliferation*, pp. 16-17; Müller & Schmidt, "The Little-Known Story of Deproliferation," pp. 144-145.

various theories focusing on the role of perceptions among states on the influence that nuclear weapons could have on their position in the international community. On the one hand, these perceptions can be influenced by internationally shared norms that make the acquisition of nuclear weapons less attractive – especially those norms institutionalized in international treaties like the Nuclear Non-Proliferation Treaty (NPT). On the other hand, some of these perceptions may make nuclear weapons more favourable, because states may consider these weapons as increasing their status and prestige. Due to the non-proliferation norms, however, status and prestige may also be perceived to increase by foregoing nuclear weapons. The literature on norms and perceptions on nuclear (non-)proliferation dynamics is rather modest[37], mostly because this area of research is relatively young. Although especially prestige as a factor of influence on (non-)proliferation has been acknowledged early in the nuclear era already, in-depth research on norms and perceptions as motivational factors for nuclear weapons has been very limited before the 2000s.

The motivational factor of international norms regarding states' decisions towards nuclear weapons (non-)acquisition may be classified in several theoretical schools within the studies of International Relations. Most authors label the focus on norms as Constructivism[38], but when combined with the norm-setting role of institutions and treaties, it could also be labelled as Liberalism, Neoliberalism or Neoliberal Institutionalism.[39] Some researchers label it as Utilitarianism.[40] Although there is a difference in focus among these theoretical schools, in this article they are all grouped into the 'International Norms and Perceptions' factor. This is conceivable because all theories included in this group are focussing on the normative environment[41] for states in general. It should be noticed that some aspects of Constructivist, Liberal or Neoliberal theories will be incorporated in the fourth motivational factor of this article: the Domestic Political Context. Especially theories on the economic outlook of state leaders are considered to belong to the (Neo-)Liberalist school as well[42], yet this article considers

[37] Sagan, "Why Do States Build Nuclear Weapons?" p. 73; Bleek, "Why Do States Proliferate?" p. 171.
[38] Solingen, *Nuclear Logics*, p. 15; William C. Potter & Gaukhar Mukhatzhanova, "Forecasting Proliferation. The Role of Theory, An Introduction," in *Forecasting Nuclear Proliferation in the 21st Century. Volume 1: The Role of Theory,* edited byWilliam C. Potter & Gaukhar Mukhatzhanova (Stanford: Stanford University Press, 2010) pp. 1-12, see p. 6.
[39] Solingen, *Nuclear Logics*, p. 14; Hymans, 2010 B, pp. 26-27; Potter & Mukhatzhanova, "Forecasting Proliferation," p. 5. Paul, *Power versus Prudence*, p. 9, labels it 'the liberal school of institutionalism and interdependence'.
[40] Müller & Schmidt, "The Little-Known Story of Deproliferation," p. 155.
[41] A term used by Müller & Schmidt, "The Little-Known Story of Deproliferation," p. 146.
[42] Solingen, *Nuclear Logics*.

these particular theories as more domestically driven (improving the national economy) than to be motivated by a wish to adhere to international norms.

The norms theory in (non-)proliferation studies claims that decisions regarding nuclear weapons serve important symbolic functions, depending on the perceived identity of the state (as well as shaping this identity itself). Decisions in this regard are determined by deeper norms and beliefs about what is legitimate and appropriate in international relations. The most significant behavioural norm regarding nuclear weapons is embodied in the international non-proliferation regime consisting of several multilateral treaties and United Nations resolutions, with the almost universal acceptance of the Nuclear Non-Proliferation Treaty (NPT) as its core.[43] Jacques Hymans lucidly summarizes the effect of this non-proliferation regime as follows: 'Most states think of themselves as, and want to be seen as, good international citizens. Thanks at least in part to the non-proliferation regime, there is today a widespread acceptance by states that good international citizens do not build nuclear arsenals. Therefore, the overwhelming majority of states have in fact not gone nuclear.'[44]

A recent publication by Harald Müller and Andreas Schmidt makes strong claims on the norm-setting impact of the NPT. Before the NPT entered into force in 1970, they write, more than two-fifths of the states that possessed the required capability to start nuclear weapons activities did so. In the meantime, only a fraction of these states renounced their nuclear programmes. After the NPT altered the normative environment, however, the situation changed. Since 1970, less than 15 percent of the states that have the capacity to build nuclear weapons did actually start such a programme. Even more important, they argue, is that since 1970 almost 70 percent of all states that once started a nuclear weapons programme ended this programme.[45] The authors explain this phenomenon by three ways in which the emergence of international norms influence the behaviour of states. First, the non-proliferation norms changed the costs-benefits calculations by states. Because of the broad supported non-proliferation regime, including its verification and export control policies, developing nuclear weapons will be more difficult and costly (technically, financially, and politically). Second, the international norms affect the national balance of power between groups (within the

[43] Maria Rost Rublee, *Nonproliferation Norms. Why States Choose Nuclear Restraint* (Athens & London: University of Georgia Press, 2009); Sico van der Meer, "Not That Bad. Looking Back on 65 Years of Nuclear Non-Proliferation Efforts," *Security and Human Rights* 22, 1 (2011): pp. 37-47.
[44] Hymans, "Theories of Nuclear Proliferation," pp. 458-459.
[45] Müller & Schmidt, "The Little-Known Story of Deproliferation," pp. 146-148.

government as well as the elite in general) when they differ in opinion on whether or not to develop nuclear weapons. Third, and according to Müller and Schmidt most importantly, the international norms change the assumptions about what is appropriate state behaviour. The emergence of the non-proliferation norms made clear that developing nuclear weapons is decisively not 'what states do', even when faced with, for example, security problems.[46]

Other analyses also warn that it is difficult to prove a causal relationship between support for the NPT and the restraint of (capable) states to develop nuclear weapons. One might assume, these experts argue, that states that ratified the NPT simply did not intend to develop weapons beforehand, instead of signing the NPT under pressure of the norm while actually wishing for nuclear weapons. One may claim that states that ratified the NPT are less likely to acquire nuclear weapons, but it is not clear at all that they are less likely to do so as a consequence of having ratified the treaty.[47] Moreover, critics of the norms theory put forward that determined proliferators will do whatever it takes to acquire nuclear weapons and that international norms are probably the least obstacle. It is hard to prove that the NPT did stop states from acquiring nuclear weapons, but there are enough cases to prove that the NPT does not automatically stop states to do so – North Korea, Iran and Syria are examples of states that ratified the NPT but still started a nuclear weapons programme.[48] Proponents of the 'opaque proliferation' theory, discussed above, claim that the non-proliferation regime only made nuclear weapons programmes less visible because states wishing for these weapons behave even more secretively than before.[49]

Contrary to the 'negative' norms regarding nuclear weapons, also 'positive' norms exist, following which nuclear weapons offer prestige and great power status. Agatha Wong-Frazer describes the possession of nuclear weapons as 'a token entitling the holder to claim a certain major power status'.[50] As long as other states adhere to these 'positive'

[46] Müller & Schmidt, "The Little-Known Story of Deproliferation," p. 155.
[47] Solingen, *Nuclear Logics*, pp. 14-15; O'Neil, "Nuclear Weapons and Non-Proliferation," p. 49; Bleek, "Why Do States Proliferate?" p. 180. William C. Potter, "The NPT and the Sources of Nuclear Restraint," *Daedalus* 139, 1 (Winter 2010): pp. 68-81, also concludes that there is 'little evidence that normative factors by themselves account for much variation in national decisions to acquire or forgo nuclear weapons.' (72).
[48] Thayer, "The Causes of Nuclear Proliferation," p. 465; O'Neil, "Nuclear Weapons and Non-Proliferation," p. 54; Lewis A. Dunn, "The NPT. Assessing the Past, Building the Future," *Nonproliferation Review* 16, 2 (July 2009): pp. 143-172, see p. 148.
[49] Thayer, "The Causes of Nuclear Proliferation," p. 467.
[50] Agatha S.Y. Wong-Frazer, *The Political Utility of Nuclear Weapons. Expectations and Experience* (Lanham: University Press of America, 1980), p. 336.

norms, maybe even without being aware, the status and prestige of nuclear weapons may offer the possessor more diplomatic leverage, or, in other words, more enhanced international bargaining power, towards these states.[51] This kind of positive perceptions of nuclear weapons is regularly labelled as 'symbolism', because the weapons are not regarded positively because of their actual usefulness as military weapons, but more because of their symbolic value. Nuclear weapons are, in the perception of some observers, used to show how modern, technological advanced, prestigious, powerful, and/or sovereign the owner state is.[52]

Just like the non-proliferation norms, these positive norms regarding nuclear weapons possession are linked to a state's identity, self-image and (desired) position in the international community. Karsten Frey names the positive and negative norms 'the nuclear taboo' and 'the nuclear myth' respectively.[53] Some analysts consider 'mythmakers' as an important factor influencing nuclear weapons related decisions – in this article their role will be discussed in the cluster on the domestic political context. Instead of using the term 'myths', this article prefers to use the term 'perceptions' for this positive norms on nuclear weapons. 'Myths' have the connotation of being untrue, while one may argue that nuclear weapons truly give a state more international standing.

Next to prestige in the sense of great power status and modernity states may also be motivated to start a nuclear weapons programme just to 'gain attention'. When a state wants 'to be taken seriously' by other states but has little to offer, pursuing nuclear weapons will attract attention for sure – maybe in a negative way, but still: attention is attention. Nuclear weapons – or only the demonstrated intention to acquire them – may

[51] Wong-Frazer, *The Political Utility of Nuclear Weapons*, p. 336; Tom Sauer, *The Emerging Powers and the Nuclear Non-Proliferation and Disarmament Regime* (Brussels: Egmont Royal Institute for International Relations, 2011), p. 5; Kroenig, Gartzke & Rauchhaus, "Introduction," p. 8.
[52] R.N. Rosecrance, "International Stability and Nuclear Diffusion," in *The Dispersion of Nuclear Weapons. Strategy and Politics,* edited by R.N. Rosecrance (New York & London: Columbia University Press, 1964) pp. 293-314, see pp. 300-301; Rothstein, *On Nuclear Proliferation*, pp. 35-41; Greenwood, "Discouraging Proliferation," p. 51; Sagan, "Why Do States Build Nuclear Weapons?" p. 73; Hymans, "Theories of Nuclear Proliferation," p. 455; Cirincione, *Bomb Scare*, pp. 58-59.
[53] Karsten Frey, *Nuclear Weapons as Symbols. The Role of Norms in Nuclear Policy Making* (Barcelona: Institut Barcelona d'Estudis Internacionals, 2006), pp. 4-5.

offer states more international status than they would normally have, which in turn may lead to diplomatic, political and economic benefits.[54]

Domestic political context

The fourth cluster of factors influencing nuclear weapons motivations is in this article entitled 'domestic political context'. The grouping of factors under this title is more or less copied from Philipp Bleek, who uses the terminology of 'domestic politics' for a same kind of cluster.[55] The present article prefers, however, to combine Bleek's terminology with the concept 'domestic context' which is used by William Potter[56], merging it into 'domestic political context'. By adding the word 'political', domestic factors like culture, geographical situation or technological capabilities are excluded. This cluster of domestic political context factors has many dimensions. Although one may criticize the diversity of this cluster, in fact the various dimensions can all be brought back to the domestic political situation in any state. The international situation – security, treaties, norms – has nothing to do with it directly, except maybe for how this situation is perceived and / or exploited by certain domestic actors.

Focussing on domestic political factors as drivers for decisions to acquire or forgo nuclear weapons is a relatively new branch of nuclear (non-)proliferation research. Although the domestic political context is mentioned in some older literature as (potentially) influential[57], the more in-depth research into this subject dates from the 2000s. Sagan in 1996-1997 had yet to signal that there existed no well-developed political theory of nuclear weapons proliferation identifying how these domestic factors actually may influence decisions in this regard[58], but ten years later two pioneering studies were published by Jacques Hymans and Etel Solingen; these studies will be described hereafter. Even nowadays, the number of studies on domestic factors influencing nuclear

[54] Dagobert L. Brito & Michael D. Intriligator, "The Economic and Political Incentives to Acquire Nuclear Weapons," *Security Studies* 2, 3-4 (Spring-Summer 1993): pp. 287-310, see p. 303; Mueller, *Atomic Obsession*, p. 108.
[55] Bleek, "Why Do States Proliferate?" p. 172.
[56] Potter, "The NPT and the Sources of Nuclear Restraint," p. 73.
[57] For example: Quester, *The Politics of Nuclear Proliferation*, pp. 235-241; Lewis A. Dunn & Herman Kahn, *Trends in Nuclear Proliferation, 1975-1995. Projections, Problems, and Policy Options* (New York: Hudson Institute, 1976), pp. 5-6; Greenwood, "Discouraging Proliferation," pp. 55-56.
[58] Sagan, "Why Do States Build Nuclear Weapons?" p. 64.

weapons (non-)proliferation is quite modest and the need for a more sophisticated understanding of the domestic context is still being emphasized in recent literature.[59]

A factor that is sometimes mentioned in literature on (non-)proliferation dynamics, but on which no in-depth research is known, is domestic turmoil that is perceived as threatening the power of the state leadership. States facing domestic tensions may use a nuclear weapons programme – and the international condemning reactions on it – as a method of diversion. Nuclear weapons programmes may respond to, or even bolster, nationalist sentiments and international negative reactions may cause a 'rallying around the flag' effect, ending domestic dissensions for some time. By diverting public attention from unfavourable domestic issues, the regime could strengthen its position.[60]

Related to this domestic turmoil aspect, Kurt Campbell introduced the term 'regime pessimism' as a factor of potential influence on nuclear weapons proliferation. He argues that especially 'states in decline' tend to consider developing nuclear weapons because they 'often suffer from a kind of societal insecurity over future economic and security shortfalls.' Due to this 'regime pessimism' states may use a nuclear weapons programme to prevent the state sinking into oblivion or being overshadowed by (regional) rival states.[61]

Another factor grouped in this 'domestic political context' cluster is the regime type of countries. In International Relations studies there exists a substantial number of studies suggesting that democracies are less likely to engage in armed conflict against each other compared to autocracies, and some authors have suggested that this may also be the case regarding the development of nuclear weapons. Some researchers that studied this hypothesis conclude that democracies are less likely to develop nuclear weapons, and they link this trend to the international norms and perceptions factor. Müller and Schmidt, for example, argue that 'democracies show a relatively higher

[59] Potter & Mukhatzhanova, "In Search of Proliferation Trends and Tendencies," p. 352.
[60] Dunn & Kahn, *Trends in Nuclear Proliferation*, p. 6; Meyer, *The Dynamics of Nuclear Proliferation*, pp. 63-64; Dong-Joon Jo & Erik Gartzke, "Determinants of Nuclear Weapons Proliferation," *Journal of Conflict Resolution* 51, 1 (February 2007): pp. 167-194, see p. 170.
[61] Kurt M. Campbell, "Reconsidering a Nuclear Future: Why Countries Might Cross over to the Other Side," in *The Nuclear Tipping Point. Why States Reconsider Their Nuclear Choices*, edited by Kurt M. Campbell, Robert J. Einhorn & Mitchell B. Reiss (Washington: Brookings Institution Press, 2004): pp. 18-31, see p. 27.

probability to abide by the rule of law and to take efforts to be good international citizens.' It should be acknowledged, they admit, that faithful norms observation is also common behaviour among autocracies. 'Abiding by international law and its established norms is, by and large, normal behaviour in the international society of states. However, some non-democracies are more likely to end up in the minority that deviates from this normalcy. Totalitarian states with a power-seeking or paranoid leadership are more likely to breach their obligations openly or clandestinely.'[62]

Other authors, however, suggest that democracies tend to be slightly more inclined to pursue nuclear weapons, because democratic leaderships may be more vulnerable to use a nuclear weapons programme to boost their popularity among (nationalist) populations, because they wish to be re-elected – something about which a dictator does not need to worry. For this reason, democracies may also more easily start nuclear weapons programmes to divert the attention of the population from other (problematic) topics.[63] Nevertheless, various other authors investigating the democracy-autocracy hypothesis find no clear evidence that any link can be made between these two regime types and nuclear weapons (non-)proliferation decisions.[64]

In a relatively early study by Richard Betts, dating from 1977, it has already been signalled that the domestic political context of a state could influence nuclear weapons decisions. Betts especially focussed on states with an isolated position in the international community – which generally are authoritarian states. The leadership of such isolated states, often with a so-called 'pariah status' in the international community, tends to have paranoid attitudes to the world outside and often becomes aggressive to remain relevant in international politics. Internationally isolated states, Betts argued, are thus more likely to aim for nuclear weapons.[65]

The isolated position of states in relation to nuclear weapons proliferation is elaborated in more detail by Etel Solingen. Her pioneering research, published thirty

[62] Müller & Schmidt, "The Little-Known Story of Deproliferation," pp. 156-157.
[63] Jo & Gartzke, "Determinants of Nuclear Weapons Proliferation," p. 179; Sonali Singh & Christopher R. Way, "The Correlates of Nuclear Proliferation. A Quantitative test," *Journal of Conflict Resolution* 48, 6 (December 2004): pp. 859-885, see p. 864.
[64] Solingen, *Nuclear Logics*, p. 16; Paul Davis, "Giving Up the Bomb: Motivations and Incentives," Research Paper prepared for the International Commission on Nuclear Non-Proliferation and Disarmament, May 2009, p. 18; Bleek, "Why Do States Proliferate?" p. 181; Sagan, "The Causes of Nuclear Weapons Proliferation," p. 238.
[65] Richard K. Betts, "Paranoids, Pygmies, Pariahs, and Nonproliferation," *Foreign Policy* 26 (Spring 1977): pp. 157-183.

years after Betts' article, focuses on the political-ideological orientation of state leaderships regarding the economic integration of their state in the international system. When a state leadership is aiming for economic growth and prosperity by international trade, it will have much to lose if it decides to acquire nuclear weapons. On the other hand, state leaders that are not interested in the economic integration of their country in the international system, will have less to lose (and probably more to win) by acquiring nuclear weapons. Solingen concludes that nuclear programmes are less likely to emerge in countries were the political culture is in general sympathetic to economic openness, trade liberalization, foreign investments, and international economic integration. Economically isolated states, in turn, are more likely to pursue nuclear weapons.[66]

Within the cluster of domestic political context factors are, in the present article, also included theories that focus on specific domestic actors who influence state's decisions regarding the acquisition or forgoing of nuclear weapons. Although the role of specific domestic actors upon nuclear weapons (non-)proliferation decisions has been suggested in academic literature for some decades already[67], in-depth research into this factor is rather recent. Two different groups of domestic actors are generally seen as influential in this regard: political leaders themselves as well as societal groups having the ability to somehow influence the political leadership.

Jacques Hymans in 2006 published a pioneering study on the importance of the psychological profile of state leaders on decisions to acquire or forgo nuclear weapons. He inquired into state leaders' views on their own country and 'the world outside' and argues that especially state leaders' conceptions of the national identity are the most influential factor regarding these decisions. Hymans develops four categories of state leaders' profiles: oppositional nationalists, oppositional subalterns, sportsmanlike nationalists, and sportsmanlike subalterns. He concludes that state leaders with the psychological profile of the oppositional nationalist – characterized by a mixture of fear and pride – are most likely to decide to acquire nuclear weapons.[68] This focus on the psychology of individual political leaders meets some scepticism in later literature[69], although some authors suggest that this focus may be useful when studying countries

[66] Solingen, *Nuclear Logics*.
[67] For example: Greenwood, "Discouraging Proliferation," p. 56; Sagan, "Why Do States Build Nuclear Weapons?" pp. 63-64.
[68] Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation. Identity, Emotions, and Foreign Policy* (Cambridge: Cambridge University Press, 2006).
[69] Potter & Mukhatzhanova, "In Search of Proliferation Trends and Tendencies," p. 339.

that are not led by political coalitions but are to a large extent dependent on the will of a single leader or a very small group of powerful persons.[70]

While Hymans is actually the only known author that thoroughly researched the role of individual state leaders, some more studies are available on the role of small, influential groups regarding nuclear weapons decisions. A relatively early study on this issue, although more journalistic then academic, was published in 1981 by Peter Pringle and James Spigelman. They argued that in almost all cases where states decided to start a nuclear weapons programme, this decision was largely influenced by domestic elites of scientists, military, businessmen, and technocrats within the political establishment. Why a state decides to pursue or to forgo nuclear weapons is, in their view, highly dependent on domestic constellations of small elite groups that could benefit from a nuclear weapons programme and are able to influence the political decisions in this regard.[71]

More academic evidence for this 'domestic elites theory' is provided by Peter Lavoy. He describes the process of domestic elites influencing nuclear weapons decision making as 'nuclear mythmaking'.[72] Lavoy argues: 'A state is likely to make the pursuit of nuclear weapons part of its national security strategy when national elites (nuclear mythmakers), who want their government to adopt this strategy, (1) emphasize their country's insecurity or its poor international standing; (2) portray this strategy as the best corrective for these problems; (3) articulate the political, economic, and technical feasibility of acquiring nuclear weapons; (4) successfully associate these beliefs and arguments (nuclear myths) with existing cultural norms and political priorities; and finally (5) convince senior decision makers to accept and act on these views.'[73] It is possible, Lavoy argues, that competing 'myths' exist within a country, so if the state leadership is most effective influenced by an elite group that considers nuclear weapons as non-beneficial for the country, the state will forgo these weapons. Although his research emphasizes the importance of the domestic elite factor ('mythmakers'), Lavoy acknowledges that constructing a myth out of nothing is hardly possible: 'In fact, it is difficult to think of any governmental official calling for the manufacture of nuclear arms without an overriding interest in solving some pressing security problem.'[74] In this regard, he obviously links the domestic elite factor to the security factor. The importance

[70] Müller & Schmidt, "The Little-Known Story of Deproliferation," p. 140; Davis, "Giving Up the Bomb," p. 18.
[71] Peter Pringle & James Spigelman, *The Nuclear Barons* (New York: Holt, Rinehart & Winston, 1981).
[72] Lavoy, "Nuclear Myths"; Peter R. Lavoy, "Nuclear Proliferation over the Next Decade. Causes, Warning Signs, and Policy Responses," *Nonproliferation Review* 13, 3 (November 2006): pp. 433-454.
[73] Lavoy, "Nuclear Proliferation over the Next Decade," p. 435.
[74] Lavoy, "Nuclear Proliferation over the Next Decade," pp. 435-436.

of domestic structures that influence decision making on nuclear weapons programmes, is emphasized in later publications on the issue as well.[75]

With regard to elite groups influencing political decisions on nuclear weapons, groups that are most often mentioned are scientists (and, if there exist a civilian nuclear infrastructure already, other people that are part of the nuclear energy establishment), military (most often within the air force, but sometimes also in the navy), and political and bureaucratic establishments within the government.[76] Some authors also add non-governmental organisations, pressure groups and citizens' campaigns (or public opinion in general) as actors able to influence states' decisions regarding nuclear weapons – pressuring for the acquiring as well as for the forgoing of these weapons.[77]

Scott Sagan offers an interesting hypothesis on the influence of what he names 'civilian nuclear power bureaucracies'. Once a state has started a civilian nuclear programme, he argues, 'its nuclear proliferation behaviour may be strongly influenced by the degree to which its civilian nuclear industry is a successful contributor to national energy production.' The people involved in running successful nuclear enterprises may have strong incentives to maintain ties to the global nuclear energy industry and may thus be more likely to cooperate with the global nuclear non-proliferation regime. 'Leaders of less successful or struggling nuclear power enterprises, in contrast, may be more likely to support clandestine or breakout nuclear weapons development programs to justify their existence, prestige, and high budgets within their state.'[78]

Summarizing, this cluster of domestic political context factors is rather divers. From domestic turmoil and 'regime pessimism' to regime type, and from the worldview of state leaders and domestic elites (or 'mythmakers') to citizens' campaigns and public opinion, it is all included under the umbrella of this 'political domestic context'. The common characteristic is, however, obvious. All dimensions within this domestic

[75] Cirincione, *Bomb Scare*, pp. 64-66; Potter & Mukhatzhanova, "In Search of Proliferation Trends and Tendencies," p. 339.
[76] Baker, "The International Political Economy of Proliferation," p. 95; Pringle & Spigelman, *The Nuclear Barons;* Richard K. Betts, "Incentives for Nuclear Weapons," in *Nonproliferation and U.S. Foreign Policy*, edited by Joseph A. Yager (Washington: Brookings Institution, 1980), pp. 116-144, see p. 136.
[77] Rosecrance, "International Stability and Nuclear Diffusion," p. 305; Sagan, "Why Do States Build Nuclear Weapons?" p. 73; Cirincione *Bomb Scare*, p. 68.
[78] Sagan, "The Causes of Nuclear Weapons Proliferation," pp. 240-241.

political context factor are based on national political circumstances and dynamics that influence the decision to pursue or forgo nuclear weapons.

Conclusion

The large number of existing theories on why states acquire or forgo nuclear weapons has above been reduced to four factors of influence: 1) Capabilities; 2) Security; 3) International Norms and Perceptions; and 4) Domestic Political Context. This set of factors may provide insight to anyone who got lost in the academic debate on nuclear (non-)proliferation motivations, and could especially be helpful to analysts and policy makers who deal with potential current or future proliferating states. Only by knowing why states behave like they do, effective policies to influence this behaviour can be made.

An important lesson of the overview presented here is that hardly any of the many existing theories can be side-lined as irrelevant. While grouping the variety of theories in the four over-arching factors above, it should be acknowledged that if so many theories may prove valid in some cases but less valid in other cases, the key in any analysis or policy regarding nuclear (non-)proliferation is nuance. Any analysis or policy should be tailored to any individual case. Often various motivational factor may be influential at the same time. Even more, states' nuclear weapons (non-)acquisition policies are not a static process. These national policies are part of a constantly evolving situation, and international policies aimed at influencing such issues should match this dynamism as well. They need to be sufficiently fluid to cover the starts, stops, setbacks and shifts that comprise any state's nuclear weapons (non-)acquisition policy.

An important recommendation for further research is the need for more in-depth case studies on (non-)proliferation decision making. Of course, many cases studies on motivations of states to acquire or forgo nuclear weapons exist, but regularly focusing on one particular theory explaining the decisions made. Studies in which various theories are tested at the same time on the same case might be helpful in specifically tracing at which moments and under what circumstances in decision-making processes various factors may become more or less influential. Moreover, far more research has been conducted to cases in which states decided to acquire nuclear weapons (sometimes renouncing that decision later on) compared to cases in which states did not decide to acquire them at all. To get better insights in the way factors are influencing (non-)proliferation decisions, in-depth case studies of national decision processes of less obvious states are to be recommended as well.

Last but not least, this article demonstrates, once again, how complicated it is to formulate theoretical explanations on nuclear (non-)proliferation policies – let alone effective policies to influence decisions of other states in this regard. The overview of motivational factors presented in this article may ease these efforts a little, even though much more research is required to create better understanding of (non-)proliferation dynamics.

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