

9-1-2011

# Latin America: Nuclear Capabilities, Intentions and Threat Perceptions

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## Recommended Citation

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**September 2011**

*The views expressed in this research paper are those of the author and do not necessarily reflect the official policy or position of the US Government, Department of Defense, US Southern Command or Florida International University. Not for public distribution.*

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## EXECUTIVE SUMMARY

Three key states are relevant in considering future nuclear proliferation in Latin America: Argentina, Brazil, and Venezuela. Argentina and Brazil are critical because of their relatively advanced nuclear capabilities. For historical and geopolitical reasons, neither Argentina nor Brazil is likely to reactivate nuclear weapons programs. Venezuela's President, Hugo Chávez, has repeatedly demonstrated interest in developing a nuclear program, yet Venezuela lacks any serious nuclear expertise. Even if it had the managerial and technological capacity, the lead-time to develop an indigenous nuclear program would be measured in decades. Acquisition of nuclear technology from international sources would be difficult because members of the Nuclear Suppliers Group would insist on safeguards, and potential non-Nuclear Suppliers Group (NSG) suppliers are highly surveilled, risking the exposure of such a program before Venezuela could put a deterrent into place.

While South American states have historically opposed nuclear weapons, their acquisition by Brazil and Argentina would lead to little more than diplomatic condemnation. Brazil and Argentina are both geopolitically satisfied powers that are deeply embedded in a regional security community. On the other hand, Venezuela under President Chávez is perceived as a revisionist power seeking a transformation of the international system. Venezuelan acquisition of nuclear weapons would be met with alarm by the United States and Colombia, and it would prompt nuclear weapons development by Brazil and possibly Argentina, more for reasons of preserving regional leadership and prestige than for fear of a Venezuelan threat.

## INTRODUCTION

Currently three key actors are relevant in considering future nuclear proliferation in Latin America: Argentina, Brazil, and Venezuela. Argentina and Brazil are critical because of their relatively advanced nuclear capabilities. Argentina has successfully exported nuclear technology to four other countries, and Brazil is one of only a very small group of countries to have mastered and achieved operational capability to execute the complete nuclear fuel cycle.<sup>1</sup> However, for historical and legal reasons, neither country is likely to pursue the development of nuclear explosive devices in the foreseeable future. Venezuela lacks any capability in the nuclear technology arena, but has declared the intention to acquire a civilian nuclear power program. Its president, Hugo Chávez also has repeatedly stated that it considers the United States the principal external threat to the security of the Bolivarian revolution, which has led some outside observers to raise the possibility that Venezuela may be interested in more than civilian nuclear power. On the other hand, Venezuela has no operational nuclear reactor or any domestic cadre of nuclear scientists with which to initiate a program.<sup>2</sup>

However unlikely, this does not mean that states in the region would never undertake nuclear proliferation. There is

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<sup>1</sup> Mary Beth Nikitin, Anthony Andrews and Mark Holt, “Managing the Nuclear Fuel Cycle: Implications of Expanding Global Access to Nuclear Power,” Congressional Research Service RL34234, March 2, 2011. For a more detailed review of the evolution of nuclear proliferation networks in South America, see Harold A. Trinkunas, “Assessing Potential Proliferation Networks in Latin America: 2006-2016,” *The Nonproliferation Review* 13.3 (November 2006): 617-625.

<sup>2</sup> Sam Logan and Julio Cirino, “Venezuelan Nuclear Technology is a Long Shot,” ISN Security Watch, October 26 2005, <http://www.samuellogan.com/articles/venezuelan-nuclear-technology-is-a-long-shot.html>.

the possibility, however remote, that dramatic shifts in the international system would change the threat perception amongst the elites in Argentina and Brazil and lead them to pursue weaponization of their nuclear technology. Venezuela's President, Hugo Chávez, already perceives a hostile international system, one in which he believes that the leading power, the United States, seeks to overthrow him. Other states with similar threat perceptions – Iran and North Korea – followed the path towards nuclear weapons systems when their leaders held similar beliefs and sought a useful deterrent.

This paper is designed to logically assess the implications of an admittedly improbable scenario: that Brazil, Argentina, or Venezuela might decide to pursue functional nuclear explosive devices coupled to reliable delivery systems. In the event that these States were to acquire such systems, the implications for regional relations are mixed. Brazil and Argentina are both territorially and geopolitically satisfied powers that are deeply embedded in a regional security community. While South American states have historically opposed the introduction of nuclear weapons into the region, the acquisition of such weapons by Brazil and Argentina would lead to little more than diplomatic condemnation, and it would be unlikely to provoke further nuclear proliferation in the region. On the other hand, under the administration of President Chávez, Venezuela has become a revisionist power in the international system, seeking a multi-polar world in which the power of the United States is constrained. Venezuelan acquisition of nuclear weapons would be met with alarm by the United States and Colombia (its historic rival), and it would prompt nuclear weapons development by Brazil and possibly Argentina, more for reasons of preserving regional leadership and prestige than for fear of a Venezuelan threat.

## **THREAT PERCEPTIONS, NUCLEAR INTENTIONS AND NUCLEAR CAPABILITIES**

Overall, the probability of further nuclear proliferation in Latin America is low because the combination of both capability and intention to develop nuclear forces is not found in any of the possible proliferators. The two countries that have the capability to pursue such a program, Argentina and Brazil, gave up the pursuit of nuclear weapons two decades ago, and they are not likely to resume this path given their historical experience and the geopolitical threat environment. Venezuela, whose intentions in the nuclear arena are suspected by some, lacks all indigenous capability to pursue nuclear weapons development at this time. Even with the assistance of outside powers, the likelihood that it could put such a system in place undetected within the next ten to twenty years is almost nil. While Argentina, Brazil and Venezuela have been on friendly terms during the past decade, there is no indication that they have any interest in helping Venezuela obtain nuclear weapons. Moreover, the possibility that non-State actors (such as the private sector or organized crime) within Argentina and Brazil might form part of such a network without State knowledge, as has been detected in the former Soviet Union states and demonstrated by the A. Q. Khan network, is lower than in many other regions of the world because of two decades of nuclear mutual confidence-building and mutual inspection through permanent bi-national agency, Agência Brasileiro-Argentina de Contabilidade e C ntrole de Materiais Nucleares (ABACC). This agency monitors all nuclear stockpiles and facilities in these two countries, and it would be likely to detect theft of nuclear technology or materials.

For the foreseeable future, Argentina and Brazil are unlikely to resume efforts to acquire nuclear weapons without some revolutionary change in the international system that would



lead them to perceive an existential threat to the state. The initial rationale for abandoning the pursuit of nuclear weapons in Argentina and Brazil was to safeguard democracy. Nuclear development had been heavily influenced by the military in both countries, and civilian leaders of the newly democratic states stripped the armed forces of control of nuclear programs in the 1980s. These programs, some of which had the potential to lead to nuclear weapons, had been shrouded in secrecy and were unaccountable both under civilian governments and military dictatorships.<sup>3</sup>

The developing security community in the Southern Cone, taking the form of UNASUR in its latest evolution, means that any territorial defense or deterrence rationales for nuclear weapons acquisition have faded. The resolution of all territorial disputes between the major regional powers (Argentina, Brazil, Chile), and ongoing mutual confidence-building measures, limit the possibility that new conflict dynamics will lead States in the region to seek nuclear weapons. Of the two powers with indigenous nuclear technology industries, Brazil's constitution bans the development of nuclear weapons, and both Argentina and Brazil are committed to sophisticated nuclear safeguards through the ABACC.<sup>4</sup>

Even though they are unlikely to proliferate, Argentina and Brazil are the two countries to watch since they have the capability to seek nuclear weapons should their intentions change. During the 2000s, left-center governments with

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<sup>3</sup> Michael Barletta, *The Military Nuclear Program in Brazil*, Working paper, Centre for International Security and Arms Control, Center for International Security and Cooperation, Stanford University, 1997.

<sup>4</sup> Diego Santos Vieira de Jesus, "The Brazilian Way: Negotiation and Symmetry in Brazil's Nuclear Policy," *The Nonproliferation Review*, Vol. 17, No. 3, 2010.

strong nationalist credentials in Argentina and Brazil have sought to rekindle their civilian nuclear programs. There are occasional signals in Brazil that indicate that there is a constituency among its elites for further nuclear technology development with military purposes (a nuclear-powered submarine force), if not for nuclear explosive devices. During his administration, President Luiz Inacio “Lula” da Silva of Brazil spoke of greatly expanding his country’s use of nuclear power, including building new reactors.<sup>5</sup> Brazil has also resisted signing the Additional Protocols of the Nuclear Proliferation Treaty (NPT) that would allow more thorough International Atomic Energy Agency (IAEA) inspections. Given Brazil’s historical insistence on equality and reciprocity in its international relations, it is unlikely to sign the Additional Protocols due to the inherently unequal treatment that nuclear and non-nuclear weapons powers receive under the NPT. Brazil’s ongoing struggle with the IAEA over the inspection of its enrichment facilities has raised eyebrows as well.<sup>6</sup> Argentina has exported nuclear technology four times in its history, and given that it could earn more than \$500 million from a new sale, the incentive to do so again is clear. In both cases, rising energy costs have been used to justify the expansion of civilian nuclear power programs. Another important consideration is that for these strongly nationalist governments, nuclear power is a symbol of modernity, technological autonomy, and sovereignty.<sup>7</sup> However, this has to be balanced against the

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<sup>5</sup> Federation of American Scientists, “OSC Analysis: Brazil Nuclear Program Remains on Hold Amid Cabinet Debate,” April 5 2006, FAS Web Site, [www.fas.org/nuke/guide/brazil/osc040506.html](http://www.fas.org/nuke/guide/brazil/osc040506.html) /.

<sup>6</sup> Irma Argüello, “The Position of an Emerging Global Power,” *The Nonproliferation Review* 18:1 (2011), 183-200.

<sup>7</sup> Etel Solingen, “The political economy of nuclear restraint,” *International Security*, Vol. 19, No. 2, (1994):126-69. Sarah J. Diehl and Eduardo Fujii, “Brazil’s New National Defense Strategy Calls for Strategic Nuclear Developments,” James Martin Center for

reality that the Argentine and Brazilian nuclear programs are plagued with cost overruns and delays. In the Argentine case in particular, repeated economic crises during the 1990s and 2000s have led to a seriously under-resourced nuclear program.<sup>8</sup>

Even though it lacks almost any capability to develop nuclear technology at this time, assessing Venezuela's future as a nuclear proliferation risk is difficult because of its leader's periodic declarations of a desire to develop a nuclear power program have not been matched with improving capabilities. In the 2005, Venezuela began discussions with its MERCOSUR partners, Argentina and Brazil, about acquiring nuclear power reactors, although these negotiations were unproductive.<sup>9</sup> Since then, it has sought actively to further collaboration with Russia on the development of a nuclear energy program, signing a nuclear cooperation agreement in 2008. There have also been discussions of possible cooperation with Belarus and France in the area of nuclear technology.<sup>10</sup> Perhaps paving the way for its own future activities, Venezuela has taken positions on proliferation issues that run directly against the mainstream of international public opinion, pursuing a highly publicized rapprochement with Iran, a potential nuclear supplier, and supporting both Iran's right to pursue nuclear technology without constraints and North Korea's periodic missile tests. It has also opposed international sanctions over nuclear

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Nonproliferation Studies, Monterey Institute for International Studies, 30 October 2009.

<sup>8</sup> Logan and Cirino, "Venezuelan Nuclear Technology is a Long Shot," opp. Cit.

<sup>9</sup> Larry Rohter and Juan Forero, "Venezuelan Leader Eager to Start Nuclear Program," *The New York Times*. November 27 2005, [www.ihf.com/articles/2005/11/27/news/chavez.php](http://www.ihf.com/articles/2005/11/27/news/chavez.php) /.

<sup>10</sup> Víctor Álvarez Riccio, "Venezuela Nuclear: Análisis de Riesgo," October 24, 2010, <http://www.analitica.com/especiales/1596346.asp>, (accessed February 24, 2011).

issues on both powers.<sup>11</sup> Venezuela's stated concern of a U.S. invasion has led it to officially orient its Armed Forces towards a policy of prolonged popular war and asymmetric warfare. This has translated into changes in doctrine and educational programs, and the creation of a militia.<sup>12</sup> Certainly, nuclear forces would be the ultimate deterrent against outside intervention.

Taken together, these factors have led some outside observers to claim that Venezuela is a potential nuclear proliferation risk. If we evaluate the contemporary domestic and international political context, it seems unlikely. At the international level, Argentina and Brazil have reacted very cautiously to the Venezuelan nuclear proposal. On the one hand, they would like the business for economic reasons, but on the other they are concerned about Chávez's ambitions. As members of the NPT and the Nuclear Suppliers Group (NSG), Argentina and Brazil are likely to insist on strong international safeguards on any nuclear technology sold to Caracas.<sup>13</sup> However, neither the Argentine nor the Brazilian governments have opposed Venezuela's nuclear ambitions publicly, both because they are vulnerable domestically on their left flank, where Hugo Chávez has numerous sympathizers, and because internationally they still have common economic interests with Venezuela.

Other potential suppliers of nuclear technology are also problematic for Venezuela. Members of the NSG such as France or even Russia are likely to insist on strong oversight

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<sup>11</sup> Sarah J. Diehl, "Venezuela's Search for Nuclear Power -or Nuclear Prestige," Issue Brief, Nuclear Threat Initiative, May 7 2009.

<sup>12</sup> Harold A. Trinkunas, "Defining Venezuela's 'Bolivarian Revolution,'" *Military Review* 85 (July-August. 2005), <http://usacac.leavenworth.army.mil/CAC/milreview/download/English/JulAug05/Btri.pdf> /, pp. 39\_44.

<sup>13</sup> Logan and Cirino, "Venezuelan Nuclear Technology is a Long Shot,"op. Cit.

of any Venezuelan nuclear program, and the United States has conceded that a peaceful civilian nuclear program would be unobjectionable if strong safeguards were in place.<sup>14</sup> However, given President Chávez's nationalist tendencies, Venezuela might try to avoid accepting strong oversight and seek assistance from non-NSG countries. Some commentators have pointed to Iran and North Korea as potential partners for Venezuela, but neither country has a track record of successfully exporting its nuclear technology.<sup>15</sup> Also, their programs are among the most highly surveilled in the world, increasing the probability that any such partnership would be quickly exposed to the international community, at great risk to all involved.

On the domestic front, there is no constituency for a nuclear program in Venezuela outside of Chávez's inner circle. The stated objective of increasing energy resources is not credible to most Venezuelans, who see their country as one of the richest in oil and hydroelectric energy resources in the world. The Chávez administration has carefully avoided any public statements about acquiring nuclear technology as a means to deter external aggression, and there is no public groundswell in favor of such development, as has occurred in Iran.<sup>16</sup> There are no bureaucratic structures in Venezuela that promote the acquisition of nuclear power. The country's civilian nuclear research program was dismantled decades ago, so there is no scientific constituency advocating such a program. Historically, there has been no constituency within the Armed Forces that seeks to acquire nuclear technology for military purposes. As the history of nuclear technology

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<sup>14</sup> Howard LaFranchi, "U.S. Unfazed by Venezuela's Talk Nukes," *Christian Science Monitor*, October 13 2005, [www.csmonitor.com/2005/1013/p02s02-usfp.html](http://www.csmonitor.com/2005/1013/p02s02-usfp.html) /.

<sup>15</sup> Joshua Kucera, "What is Hugo Chávez Up To?" *The Wilson Quarterly* 35. 2 (Spring 2011): 22-30.

<sup>16</sup> Harold A. Trinkunas, "Venezuelan Strategic Culture," Findings Report 1, Applied Research Center, Florida International University, 2009.

development in Argentina, Brazil, Pakistan, and India suggests, a constituency inside and outside of government favoring nuclear development is a critical element in ensuring its continuity, while also realizing that mastering the needed technology can take decades. To succeed, any nuclear program would have to extend well beyond the tenure of Chávez, even if he wins the 2012 presidential elections and his personal health recovers.<sup>17</sup>

Venezuela also lacks the technical or managerial capacity for a nuclear technology development program even if Chávez or his successors had the political will to pursue it. It is true that in the past, Venezuela has maintained sophisticated industrial and scientific development programs, especially within its oil industry. However, the 2003 oil industry strike and the mass purge of upper- and mid-level employees from the industry by the government have greatly reduced the managerial and technical talent pool on which the Venezuelan government could draw.<sup>18</sup> The absence of any pool of nuclear scientists to contribute to sustaining such a program means Caracas would essentially have to start such a program from scratch. It would also require investing in educating a cadre of scientists and technology workers. This would lengthen the time horizon to the acquisition of any kind of indigenous nuclear program, and would require the Chavez administration to change its attitude towards expert knowledge. The decisions made by President Chávez repeatedly demonstrate that political criteria trump technical competence and bureaucratic autonomy in today's Venezuela, much to the detriment of many of the programs the Venezuelan government has undertaken since 1999.

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<sup>17</sup> "Hugo Chávez defies illness to run for re-election in 2012," [www.guardian.co.uk](http://www.guardian.co.uk), 25 July 2011, <http://www.guardian.co.uk/world/2011/jul/25/hugo-chavez-illness-election-venezuela>.

<sup>18</sup> Álvarez Riccio, 2010.

## REGIONAL REACTIONS TO NUCLEAR WEAPONS ACQUISITION

Latin America has been a hotbed of liberal international institution building, ranging from the Organization of American States through various regional economic forums and pacts such as the United Nations Economic Commission for Latin America (ECLA) and MERCOSUR, and new initiatives such as UNASUR and the South American Defense Council. The international regime prohibiting the development and acquisition of nuclear weapons in South America is particularly robust, resting on the 1967 Treaty of Tlatelolco that initiated the process of creating a nuclear weapons free zone in the region.<sup>19</sup> However, there are also a number of failed or ineffective international regimes in the diplomatic history of the region, and the acquisition of nuclear weapons — however unlikely it seems at present — would represent a ‘realist shock’ to the system that would undoubtedly cause some regional powers to reconsider their adherence to a nuclear weapons-free regime.

Nuclear weapons acquisition by a South American State would lead its neighbors to reconsider their own security, much as realist or neorealist international relations theory describes, and decide whether they should conciliate the new nuclear weapons State or balance against it. Some would consider strengthening military and other capabilities or react by fostering alliances to balance threats, particularly when the State acquiring nuclear weapons is perceived as having offensive intentions.<sup>20</sup> Stephen Walt argues that States do not just pay attention to relative capabilities when making

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<sup>19</sup> Héctor Gros Espiell, “Contribución del Tratado de Tlatelolco al Desarme Nuclear y la No Proliferación,” *Anuario Mexicano de Derecho Internacional*, Vol. VIII (2008): 541-552.

<sup>20</sup> Stephen M. Walt, “Alliance Formation and the Balance of World Power,” *International Security* 9.4 (Spring 1985): 3-43.

calculations of threat, but also the identity and nature of other powers, particularly whether their intentions are offensive or benign. When it comes to the acquisition of nuclear weapons by Argentina, Brazil or Venezuela, clearly, the perceptions of States in the region as to the intentions of these countries in acquiring the weapons would play a significant part in determining their reactions.

A current thought about international relations in the developing world, the so-called ‘peripheral realism’, suggests that anarchy is not really an accurate description of the international system, and it argues that States play different roles in the system: order-givers (developed core States), order-takers (peripheral States that accept the existing international order even though they do not reap the same rewards as core States), and order-breakers (peripheral States that seek to change the international status quo). At various points in Latin America’s history, States in the region have migrated to the order-breaker category: Cuba in 1959, Nicaragua in 1979, and Argentina from 1976-1987 (at least in terms of missile proliferation).<sup>21</sup> Order-breaking countries, including Venezuela with its long-range international objectives, tend to have fraught and conflictive relations with order-makers, such as the United States, in the international system. Neither Argentina nor Brazil falls into the category of ‘order-breaking’ States at this time, and Brazil certainly aspires to the status of ‘order-maker.’

Of the three States under consideration in this paper, Brazil is the least unlikely to acquire nuclear weapons in the next two decades since it already has the necessary capability, and

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<sup>21</sup> Carlos Escudé, “An Introduction to Peripheral Realism and Its Implications for the Interstate System: Argentina and the Cóndor II Missile Project,” in Stephanie G. Neuman, (ed.) *International Relations Theory and the Third World*, New York: NY, St. Martin’s Press, 1998): 55-76.



at least some members of its political establishment have publicly voiced their support for such a move. On the other hand, Brazil is a territorially satisfied power with few border disputes of any significance with its neighbors. It is difficult to imagine a geopolitical threat scenario that would lead Brazil to acquire nuclear weapons for either defensive or offensive purposes. It is much more powerful militarily than any of its neighbors and it is protected by its geography—along much of its extensive land border and by South America’s remoteness from other great powers. Rather, it is much more likely that Brazil’s aspirations to being a modern great power and irritation with lack of progress towards global nuclear disarmament under the Nuclear Nonproliferation Treaty, would lead it to acquire nuclear weapons for symbolic reasons. Given South America’s status as a nuclear-weapons free zone, Brazil would face a regional diplomatic backlash, but it is unlikely that other countries in the region would respond by acquiring their own nuclear weapons because they perceive Brazil’s international orientation as basically defensive. The Brazilian government would likely also face a domestic backlash since its constitution forbids the acquisition of nuclear weapons and there is little public support for such a step.<sup>22</sup>

The only circumstance under which the Argentine government might face some internal pressure to develop a nuclear weapons program of its own would be in response to a Brazilian decision to acquire such forces. Here, its latent competition with Brazil, concern over Brazilian rearmament, and own pursuit of prestige could conceivably prompt a reinvention of its nuclear programs. However, the profoundly anti-militarist cast of public opinion in Argentina, the continuing civilian elite distrust of the military, and the prospective cost of the program would generally discourage such a move. Under such

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<sup>22</sup> Arguello, 2011, pp. 193-194.

circumstances, Argentina might simply decide to bandwagon with Brazil when it comes to security issues, much as it already does, and use the mechanisms in ABACC to achieve some level of confidence as to the status of a developing Brazilian arsenal.

Any Venezuelan indigenous acquisition of nuclear weapons is very far off. It essentially has no active program at this time, and even if Chávez's declarations of a joint search for uranium with Iranian assistance were true, it would simply confirm how preliminary the preparations for a nuclear program are in Venezuela. On the other hand, the importation of nuclear technology would be a highly risky operation given that the most likely suppliers are also under the high degree of intelligence surveillance by interested powers. Still, if Venezuela were to acquire a nuclear weapon and a delivery system, regional and global reaction would be different from that described for the Brazil and Argentina cases. Simply put, Venezuela is viewed as a revisionist power, an 'order-breaker', and as such, its intentions would not necessarily be viewed as defensive. There would certainly be regional criticism for breaching the Treaty of Tlatelolco, although Venezuela's allies in the ALBA (alliance of countries that support Chávez) would mute it. In addition, it is hard to believe that Brazil would ignore such a development. Such an event would be perceived as an affront to Brazilian great power status ambitions and regional leadership, and this in turn might garner enough public opinion and elite support to proceed to rapid development of nuclear weapons. For Argentina, a similar logic holds, although widespread anti-militarism and a weaker economic base on which to support a nuclear weaponization program would discourage follow through. Colombia would also be highly concerned, given its historic rivalry with Venezuela. Similarly to Venezuela, it lacks any indigenous nuclear capability, so in the face of a Venezuelan

nuclear program, it would have to decide whether to seek support from outside powers, or simply bandwagon with Venezuela by adopting a conciliatory stance. Generally, the economic and political advantages for Colombia of being on good terms with Venezuela are such that it would require quite provocative behavior for the Colombian government to try to balance against Venezuelan nuclear power.

The United States would face important choices in any of these proliferation scenarios. These States would have acquired nuclear weapons in violation of the Nuclear Nonproliferation Treaty, and the United States would have to decide the degree to which it should mobilize the international community to sanction violators. Given that Brazil is perceived as a power with a defensive orientation, a consolidated democratic regime, and a growing international powerhouse, the United States might simply seek an understanding or accommodation that would avoid more than symbolic sanctions. Similar considerations would apply in the very unlikely event that Argentina would acquire nuclear weapons, although Argentina's history of erratic foreign policy behavior would lead U.S. policymakers to a higher level of concern, and they would also feel less constrained about pursuing sanctions given Argentina's relatively smaller role in the international system compared to Brazil. Venezuelan acquisition of nuclear weapons would raise very serious concerns in the United States, not because of the prospect that Venezuela would employ such forces offensively but because of the deterrent they create. Under such a shield, President Chávez might feel more confident in pursuing a campaign of petro-diplomacy and covert financial and military assistance to friendly governments and political movements. Given President Chávez's tendency towards bombast, there would certainly be a great deal of drama and angst that would feed the public opinion debate in the United States over how to approach a newly nuclearized Venezuela,

and this would put U.S. policymakers in an awkward position domestically, not just internationally.

## **CONCLUSIONS**

Argentina and Brazil are likely to remain nuclear technology powers and continue to pursue further research in this domain. Nationalist leaders in both countries are interested in sustaining their nuclear programs as an economic resource and a means to demonstrate sovereignty and technological independence. However, they currently have no interest in introducing nuclear weapons into the region, and they are likely to continue supporting a reasonable international nonproliferation regime. Given their proven ability to develop nuclear technology to a substantial level of sophistication, Argentina and Brazil remain potential nuclear proliferators because they have capability to move towards weaponization in years rather than decades.

In the Venezuelan case, despite the intentions of its leadership, there is a low risk for successful nuclear proliferation because of strong international and domestic constraints. Venezuela lacks any serious domestic nuclear development program, and starting and operating such programs is expensive and requires a lead-time of decades before achieving success. Given the resources that Chávez has at his disposal, a small possibility remains that Venezuela could acquire nuclear technology through some sort of turnkey arrangement with an existing supplier. If this were to be provided by a member of the NSG, then the probability of diversion of this technology for non-peaceful purposes is low because of the scarcity of Venezuela's managerial and technical capacity and absence of nuclear expertise. If a non-member of the NSG, which would not require international safeguards, provided it, then Venezuela and its supplier would face the risk of discovery well before

a fully functional nuclear weapons program could be established. This gap between discovery and the acquisition of a deterrent would leave Venezuela highly vulnerable to action by the international community.

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## ABOUT THE AUTHOR

**Harold Trinkunas** is an Associate Professor and Chair of the Department of National Security Affairs at the Naval Postgraduate School in Monterey, California. His research has focused on Latin American politics, particularly on civil-military relations and democratization. His recent publications include “Civilian Praetorianism and Military Shirking during Constitutional Crises in Latin America” (with David Pion-Berlin, *Comparative Politics*, July 2010), “Attention Deficits: Why Politicians Ignore Defense Policy in Latin America,” (with David Pion-Berlin, *Latin American Research Review* 42.3, 2007) and *Crafting Civilian Control of the Military in Venezuela* (University of North Carolina Press, 2005). He co-edited and contributed to *Ungoverned Spaces: Alternatives to Governance in an Era of Softened Sovereignty* (Stanford University Press, 2010), *Global Politics of Defense Reform* (Palgrave MacMillan, 2008), and *Terrorism Financing and State Responses* (Stanford University Press, 2007). Professor Trinkunas received his Ph.D. in Political Science from Stanford University in 1999 after conducting field research in Argentina and Venezuela.

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