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# Improving Drinking Water Distribution under Increasing Global and Regional Economic Integration

June 6, 2011

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**ABSTRACT:** This paper addresses the issue of whether increasing global and regional economic integration can bring direct benefits for improving drinking water provision for the poorest population segments in urban and peri-urban areas in developing countries. The “sector” that encapsulates drinking water distribution in developing urban areas is a very complex mixture of distribution modes and different public and private actors, each with different capabilities and characteristics. Experience and academic studies have provided a set of current best management practices for focus areas and objectives to improve drinking water distribution for the poorest segments of the population in these areas. Drinking water distribution is at its heart a service that could potentially fall under the GATS umbrella, but direct results from GATS on this sector in developing countries are likely to be negligible. However, slight positive benefits are promised by the general trend that GATS both represents and fosters, and thus this analysis provides support for the position that much of the hype that GATS will undermine services to the poor is misdirected.

**KEYWORDS:** drinking water, GATS, economic integration, low-income, urban, development, infrastructure,

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## 1. INTRODUCTION

Will increasing global and regional economic integration bring direct benefits for improving drinking water provision for the least-well-served in urban and peri-urban areas in developing countries? One of the major goals of water infrastructure improvements is poverty reduction,<sup>1</sup> and studies consistently correlate improving access

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<sup>1</sup> See D. Parker, C. Kirkpatrick, & C. Figueira-Theodorakopoulou, *Infrastructure regulation and poverty reduction in developing countries: A review of the evidence and a research agenda*, 48(2) *The Quarterly Review of Economics and Finance*, 177, 177 (2008).

to basic infrastructure with poverty reduction.<sup>2</sup> The analysis in this paper supports the argument that much of the hype and debate on trade and drinking water<sup>3</sup> has missed the point by not addressing the actual characteristics of distribution to the least-well-served in many urban areas. Accordingly, this paper will analyze the potential benefits and negative effects for this lowest-income segment of the sector from economic integration under GATS and regional economic agreements, building off of the significant work already started by several authors in this field.<sup>4</sup>

To start, the focus here is placed on low-income populations in urban areas in developing countries both because of the relative size of this segment of the population and the important consequences of inadequate water distribution.<sup>5</sup> Roughly half of the world's population lives in urban areas, and about one third of this group lives with serious infrastructure deficiencies.<sup>6</sup> Water distribution infrastructure (piped) often does not reach a large fraction of the population in developing urban areas<sup>7</sup> especially the poorest segments of the population.<sup>8</sup> It is more often the case that the informal water

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<sup>2</sup> C. Calderón, & L. Servén, *The Effects of Infrastructure Development on Growth and Income Distribution*, Central Bank of Chile Working Papers No.270, 26 (2004).

<sup>3</sup> See e.g., Andrew Lang, *The GATS and Regulatory Autonomy: A Case Study of Social Regulation of the Water Industry*, 7(4) J. Int'l Econ. L., 801 (2004). See also, Maria Zettel, *The GATS, Privatization and Water Services – an overview of legal aspects*, Maastricht Faculty of Law Working Paper 2006/9 (2006). And C. Kirkpatrick & D. Parker, *Domestic regulation and the WTO: The Case of Water Services in Developing Countries*, 28(10) World Economy 1491 (2005).

<sup>4</sup> See *id.*

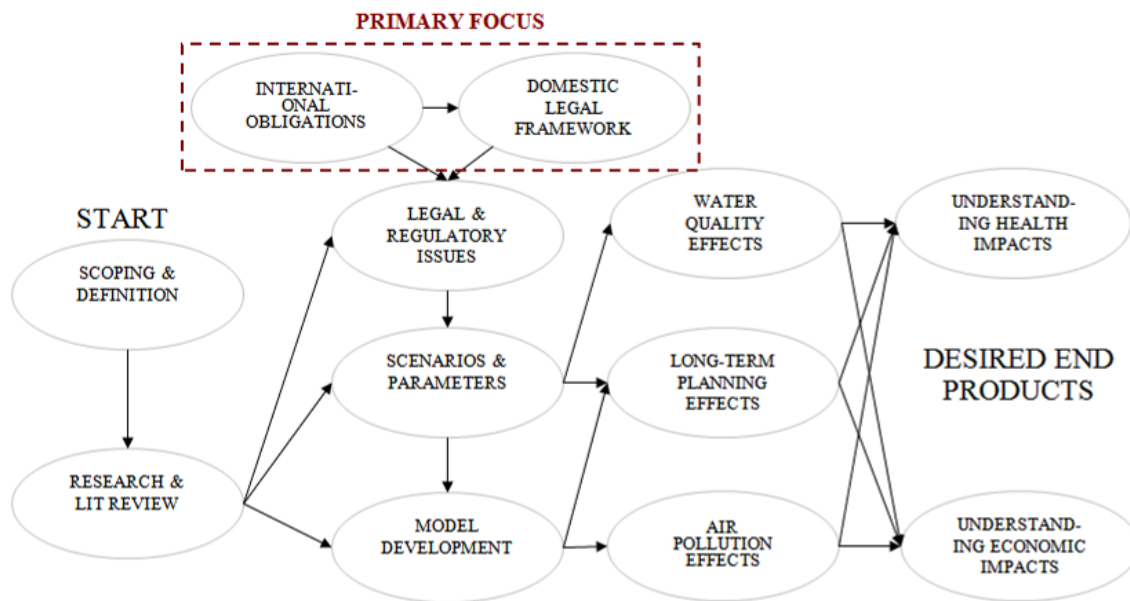
<sup>5</sup> See *Human Development Report 2006, Beyond scarcity: Power, poverty and the global water crisis*, UNDP, 80 (2006).

<sup>6</sup> UN-HABITAT, *Water and Sanitation in the World's Cities: Local Action for Global Goals*, Ch. 5 (2003), available at <http://ww2.unhabitat.org/mediacentre/wswc.asp>.

<sup>7</sup> See e.g., M. Basani, & J. Isham, *The Determinants of Water Connection and Water Consumption: Empirical Evidence from a Cambodian Household Survey*, 36(5) World Development 953, 954 (2008). See also Ben Arimah, *What drives Infrastructure spending in cities of developing countries?* 42(8) Urban Studies, 1345, 1346 (2006).

<sup>8</sup> The richest fifth of the population in developing countries is more than twice as likely to use improved drinking water sources than the poorest fifth of the population, where improved sources are defined as piped water, standpipes, covered rainwater collection, or protected wells. WHO/UNICEF, *Progress on drinking water and sanitation – 2010*, 13, 30 (2010). See also, M. Kjellén & G. McGranahan, *Informal*

sector of independent providers (operating outside of the piped infrastructure) is most important for analysis of the lowest-income segments of the population in developing urban areas.<sup>9</sup> Empirical studies have suggested that by increasing access to water infrastructure in developing urban areas, general economic welfare improves significantly.<sup>10</sup> Expanding access and improving quality have been noted to have specific and significant effects on public health, economic growth, economic productivity, and education.<sup>11</sup>



**FIGURE 1:** Conceptual model for comprehensive study of drinking water distribution for the least-well-served in developing urban areas.

In *Figure 1* above, the scope of work for this paper is highlighted within a proposed framework for comprehensive study of the topic. The analysis in this paper is broken

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*Water Vendors and the Urban Poor*, IIED Human Settlements Discussion Paper Series, Theme: Water-3, 2 (2006), available at <http://pubs.iied.org/pdfs/10529IIED.pdf>.

<sup>9</sup> *Id.*

<sup>10</sup> See e.g. Basani & Isham, *supra* note 7. See also, A. Brennen & M. Kerf, *Infrastructure and Poverty Linkages: A Literature Review*, World Bank, 99-120 (2002), and, G.R.G. Clarke, C. Menard & A.M. Zuluaga, *Measuring the welfare effect of reform: Urban water supply in Guinea*, 30(9) World Development, 1517, 1531 (2002).

<sup>11</sup> For a review of the literature on empirical effects of improving drinking water access, see Brennen & Kerf, *supra* note 10 at 99-120.

down into several steps. *Section 2* utilizes a brief literature review to establish relevant system characteristics and the scope of the paper. *Section 3* establishes, again by literature review, important areas of regulatory freedom for application to drinking water distribution for the least-well served in developing countries. *Section 4* identifies potentially relevant provisions of selected global and regional economic agreements. *Section 5* analyzes several potential scenarios where international economic agreements might intersect with drinking water distribution for the least-well-served in developing urban areas. Lastly, *Section 6* provides conclusions from analysis and resulting recommendations for improving drinking water distribution to this sector under increasing global and regional economic integration.

## 2. WHAT ARE THE ESSENTIAL CHARACTERISTICS OF THESE LEAST-SERVED-AREAS?

### 2.1. PHYSICAL DESCRIPTION OF TYPICAL SYSTEMS

Water distribution infrastructure (piped) often does not reach a very significant fraction of the population in developing urban areas<sup>12</sup> and even where it does reach, service may be intermittent or of poor quality.<sup>13</sup> Water pipe infrastructure is capital intensive and long-lasting and therefore typically isn't laid down until after road development and established planning; thus rapid, unplanned (peri-urban) growth areas and settlements present significant difficulties for planning water infrastructure

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<sup>12</sup> See e.g., Basani & Isham, *supra* note 7 at 954. See also Arimah, *supra* note 7 at 1346.

<sup>13</sup> F. Vanderschueren, E. Wegelin & K. Wekwete, *Policy programme options for poverty reduction: a framework for action at the municipal level*, Urban Management Program, World Bank, 26 (1996).

expansion.<sup>14</sup> Accordingly, a sizable portion of the population in developing urban areas relies on one or several modes from a mixed and interconnected<sup>15</sup> set of sources and intermediaries for drinking water. This set includes surface water from streams, lakes, and rivers, ground water from wells, standpipes, kiosks, vendors,<sup>16</sup> and private water tanker associations.<sup>17</sup> Surface and ground water sources are often heavily stressed and polluted in urban areas, exacerbating public health concerns resulting from limited water access.<sup>18</sup> Although counterexamples exist,<sup>19</sup> water from independent providers generally has similar quality to piped water in developing urban areas.<sup>20</sup> However, alternative water distributors and providers such as vendors and tanker associations also have their own issues and additionally have a complicated role in the legal, regulatory and economic environment in many developing urban areas; this role will be briefly outlined in the paragraphs that follow.

## 2.2. KEY PARTICIPANTS AND COMPONENTS

Many countries have some level of private participation in the distribution of drinking water to urban populations<sup>21</sup> and in general the trend over the past few decades has been

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<sup>14</sup> B. Collignon & M. Vézina, *Independent Water and Sanitation Providers in African Cities. Full Report of a Ten-Country Study*, UNDP–World Bank Water and Sanitation Program, 6 (2000), available at ([http://www.wsp.org/wsp/sites/wsp.org/files/publications/af\\_providers.pdf](http://www.wsp.org/wsp/sites/wsp.org/files/publications/af_providers.pdf)).

<sup>15</sup> See e.g., Ghana Water Company Ltd., *Strengthening the Capacity of Water Utilities to Deliver Water and Sanitation Services*, Environmental Health, and Hygiene Education to Low Income Urban Communities: Ghana Case Study, 30 (2000), available at <http://web.mit.edu/urbanupgrading/waterandsanitation/resources/examples-pdf/CaseStudyGhana.pdf>.

<sup>16</sup> Basani & Isham, *supra* note 7 at 955.

<sup>17</sup> Ghana Water Company, *supra* note 15 at 29.

<sup>18</sup> Basani & Isham, *supra* note 7 at 955. See also, Collignon & Vézina, *supra* note 14 at 8-9.

<sup>19</sup> Kjellén & McGranahan, *supra* note 8 at 12.

<sup>20</sup> Collignon & Vézina, *supra* note 14 at 49.

<sup>21</sup> *Id* at 10.

towards increasing private participation in developing urban areas.<sup>22</sup> This private participation can come in several forms,<sup>23</sup> including official concession contracts for services and the informal operation of independent providers such as small vendors and distributors.<sup>24</sup> Formal concessions tend to only cover the most profitable, suitably-dense, higher-income urban areas whereas lower income areas are left to the informal sector.<sup>25</sup> As an example of the scale of the informal sector, the respective city-wide water providers provide household connections to 71 percent of households in Dakar, Senegal, but only 18 percent of households in Bamako, Mali.<sup>26</sup> Standpipes also provide a common means of formal sector water distribution.<sup>27</sup> In South Asia and Sub-Saharan Africa, the growth rate in population with access to “improved” sources like public standpipes is 3 to 3.5 times higher than the growth rate in population obtaining piped water access.<sup>28</sup> Even taking into account household connections, public standpipes, and neighbor reselling, the informal sector still plays a major role. According to one survey, the market share of informal, independent providers in surveyed African cities ranged from 30 to 80 percent of the market -- occupying a dominant position in 6 out of 10 surveyed cities.<sup>29</sup>

Thus, contrary to the general conception of water service as a natural monopoly,<sup>30</sup> the market in many developing urban areas is best described as a near monopoly at the upstream/production end but a competitive market at the distribution end with many

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<sup>22</sup> K. Bakker, *From archipelago to network: Urbanisation and privatisation in cities in the South*, 169(4) *The Geographical J.*, 328, 329 (2003).

<sup>23</sup> Kirkpatrick & Parker, *supra* note 3 at 1502.

<sup>24</sup> Collignon & Vézina, *supra* note 14 at 10.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 12.

<sup>27</sup> *Id.* at 18.

<sup>28</sup> WHO/UNICEF, *supra* note 8 at 13, 25.

<sup>29</sup> Collignon & Vézina, *supra* note 14 at 15.

<sup>30</sup> Zettel, *supra* note 3 at 13. *See also*, R. Noll, M. Shirley, & S. Cowan, *Reforming urban water sector in developing countries*, SIEPR Discussion paper, No. 99-32, 6 (2000), available at <http://www.unsgab.org/docs/biblioteca/II-4.28.pdf>.

independent operators coming into play.<sup>31</sup> Empirical studies of economies of scale and monopolies in water and sanitation provision in developing countries suggest that the issue is complicated and that several interrelated factors, including density, utility coverage population, and service quality level affect the benefits of monopolizing water provision.<sup>32</sup> In the typical progression moving towards monopoly, concession agreements usually carry exclusive rights to extract water and lay pipes in public rights of way, often placing independent providers on uncertain legal ground in operating at the fringe.<sup>33</sup> It has been suggested that this legal uncertainty for independent operators provides an incentive for utilities and concessionaires to avoid investing in expanding the network in “unauthorized” settlements, let independent providers take the risk, and then later take over these investments because the terms of their concession contract from the government state give full rights to operation of distribution infrastructure.<sup>34</sup> Regarding investment in general, the informal sector of independent operators usually operates without connection to the banking sectors, raising money through small private arrangements.<sup>35</sup> Transnational participation in this part of the sector is rare if not non-existent in many cases.

The typically high price charged by alternative water providers shows an interesting paradox and potential incentive for entry into this sector. A study of water pricing in several cities during the 1970s and 1980s showed the wide range of high water pricing by

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<sup>31</sup> UNDP, *supra* note 5 at 82. *See also*, Collignon & Vézina, M, *supra* note 14 at 20.

<sup>32</sup> C. Van den Berg & C. Nauges, *How “natural” are natural monopolies in the water supply and sewerage sector? Case studies from developing and transition economies*, World Bank Policy Research Working Paper No. 4137, 17-20 (2007).

<sup>33</sup> Collignon & Vézina, *supra* note 14 at 10.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.* at 38.



private water vendors and kiosks in developing urban areas.<sup>36</sup> Private water vendors in the surveyed cities charged on average, somewhere in the range of 4 to 100 times the price charged by the utility providing piped water.<sup>37</sup> For example, in Lomé, Togo, private vendor prices were on average 7 to 10 times higher than the price charged by the public utility; in Surabaya, Indonesia, prices were 20 to 60 times higher than what was charged by the public utility.<sup>38</sup> Other studies confirm that volumetric prices charged<sup>39</sup> and distribution costs<sup>40</sup> of independent providers are generally much higher than the volumetric charges through piped infrastructure.

However, the disparity between prices charged by alternative providers and the utilities does not tell the whole economic story of why the informal sector is so prevalent even at high volumetric charges; the fee charged for connecting to the network has been found to be a major factor in the access to piped water.<sup>41</sup> Connection fees vary from location to location but can include costs for labor, piping materials, metering equipment, and thus could be higher the farther one lives from existing infrastructure.<sup>42</sup> Connection fees can be as high as 2 to 5 times the monthly salary of an average urban worker.<sup>43</sup> A statistical demand-side analysis of water provision in urban areas in Cambodia suggests

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<sup>36</sup> World Bank, *World Development Report*, 146 (1988).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> See e.g. Kjellén & McGranahan, *supra* note 8 at 17. See also, M. Kjellén, *Complementary water systems in Dar es Salaam, Tanzania: the case of water vending*, 16(1) *Water Resources Development* 143 (2000).

<sup>40</sup> A. McIntosh, *Asian water supplies. Reaching the urban poor*, 190 (2003), available at [http://www.adb.org/Documents/Books/Asian\\_Water\\_Supplies/](http://www.adb.org/Documents/Books/Asian_Water_Supplies/). See also, Collignon & Vézina, *supra* note 14 at 46.

<sup>41</sup> Basani & Isham, *supra* note 7 at 958.

<sup>42</sup> *Id.*

<sup>43</sup> Collignon & Vézina, *supra* note 14 at 42.

that the magnitude of the connection fee is the major determining factor for access to infrastructure by the poorest segments on the population.<sup>44</sup>

Additionally, independent water providers maintain a large market share because they have proved to be successful at dealing with several obstacles to piped infrastructure expansion including variable and high elevations (above main pressure), flooding risk, rapidly developing settlements, and intermittent or low sales volumes.<sup>45</sup>

### 2.3. QUICK NOTE ON THE SCALE OF FOREIGN PRIVATE INVESTMENT AND THE PUBLIC VS. PRIVATE DEBATE

It is estimated that less than 10 percent of the funding for infrastructure work in the water and sanitation sector in developing countries comes from private foreign sources (non-aid).<sup>46</sup> While the trend in private foreign investment in water and sanitation has been rising, most of this has been focused on more-stable lower-middle-income countries.<sup>47</sup> Countries that encourage private investment do so with the objective of not further burdening domestic budgets<sup>48</sup> and in hopes of increasing efficiency.<sup>49</sup> Empirical analyses of outcomes from private vs. public participation in water services are mixed and inconclusive.<sup>50</sup>

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<sup>44</sup> Basani & Isham, *supra* note 7 at 963.

<sup>45</sup> Collignon & Vézina, *supra* note 14 at 47.

<sup>46</sup> S. Annamraju, B. Calaguas & E. Gutierrez, *Financing water and sanitation*, WaterAid briefing paper, 2, 11 (2001), available at <http://www.oecd.org/dataoecd/13/55/2552051.pdf>.

<sup>47</sup> *Id* at 2. See also, World Bank, Private participation in infrastructure project database 2006, available at [http://ppi.worldbank.org/documents/2005\\_Data\\_summary\\_water.pdf](http://ppi.worldbank.org/documents/2005_Data_summary_water.pdf).

<sup>48</sup> Clarke et al., *supra* note 10 at 1517.

<sup>49</sup> C. Kirkpatrick, D. Parker & Y.F. Zhang, *Foreign direct investment in infrastructure in developing countries: does regulation make a difference?* 15(1) *Transnat'l Corp.*, 143, 144 (2006).

<sup>50</sup> Kirkpatrick & Parker, *supra* note 3 at 1500.

### 3. WHAT ARE ESSENTIAL REGULATORY AREAS AND GOALS RELATED TO DRINKING WATER DISTRIBUTION TO THE LEAST-WELL-SERVED?

#### 3.1. METHODOLOGY

Recognizing that both the legal frameworks and the physical drinking water distribution system realities are likely to vary with the level of economic and government development in each country and thus regulatory objectives will likely vary, this section examines how objectives vary with development level by exploring three case study countries: the Netherlands – a country with relatively well-developed drinking water distribution; Chile – a country that has recently made large strides in development and drinking water distribution; and Nigeria – a country that is developing rapidly but still faces significant hurdles in the area of drinking water distribution.

The foreign domestic laws and regulations that potentially affect drinking water distribution may fall into many categories that are traditionally thought of as distinct bodies of law, from laws governing businesses and investments, to environmental protection, to utilities regulation, to social welfare regulation.<sup>51</sup> Thus, the analysis will first take a glimpse at the overall legal system and regulatory regime in these countries, and then move to looking at specific issues that may deal with particular sub-areas of law within each country.

#### 3.2. OVERALL LEGAL SYSTEM CHARACTERISTICS

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<sup>51</sup> See e.g., PURC, *Social policy and strategy for water regulation*, Mimeo, Accra: Ghana Public Utilities Regulatory Commission (2005).

The Netherlands is a parliamentary constitutional monarchy best described as a decentralized unitary state where legislative and administrative power is exercised by central, regional (12 provinces) and local bodies, as well as separate agencies like water boards (waterschappen).<sup>52</sup> The Netherlands is a civil law system and thus emphasizes legislation and codification over judicial decision.<sup>53</sup> The Netherlands is a member of the European Union (EU) and EU law is supreme over domestic Dutch law so must be considered in any study of Dutch law.<sup>54</sup> Below EU law and the Dutch Constitution, the most important form of legislation is an act of parliament, followed by rules made by other agencies that belong to the central government such as orders in council and ministerial regulations, then by representative organs of provinces (including water boards), and then by other public bodies.<sup>55</sup> Rules made by water boards are called “Keuren”.<sup>56</sup>

The Republic of Chile is a democratic state governed under the Constitution of 1980.<sup>57</sup> Like the Netherlands system, Chile’s legal system falls under the category of civil law systems and thus the legal system highly values codified legislation.<sup>58</sup> Under the constitution, as in many civil law systems, there exists a “hierarchy of norms” in the following order from highest to lowest: institutional acts, special acts, and ordinary acts.<sup>59</sup>

Within ordinary acts, there are three types of law on equal footing in the hierarchy:

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<sup>52</sup> O. Jansen, G. Middledorp, D. Snoek, & H. Zonneveld, *Update: Researching Dutch Law*, Globalex: NYU Law School (2007), <http://www.nyulawglobal.org/globalex/Netherlands1.htm> (last visited Apr. 12 2011).

<sup>53</sup> Juriglobe, *Civil law Systems and Mixed Systems with a Civil law Tradition*, Univ. Ottawa (2011), <http://www.juriglobe.ca/eng/sys-juri/class-poli/droit-civil.php> (last visited Apr. 12 2011).

<sup>54</sup> See Case 6/64, Flaminio Costa v. ENEL [1964] ECR 585; see also Jansen et al., *supra* note 9.

<sup>55</sup> Jansen et al., *supra* note 52.

<sup>56</sup> *Id.*

<sup>57</sup> Reynolds & Flores, *Chile: Foreign Law Guide*, [www.foreignlawguide.com](http://www.foreignlawguide.com) (last visited Apr. 12, 2011).

<sup>58</sup> Juriglobe, *supra* note 53.

<sup>59</sup> S.E. Gomez, F.J. Fernandez-Acevedo, & R. Depolo, *Update: Essential Issues of the Chilean Legal System*, Globalex: NYU Law School (2010), <http://www.nyulawglobal.org/globalex/Chile1.htm> (last visited Apr. 12, 2011).

decree laws, delegated laws, and ordinary laws. Delegated and decree laws are commonly used in technical areas like water supply, where the Congress has delegated power to the President to set the law on specific powers.

Nigeria is a relatively new democracy, governed before the 1999 Constitution by military rule and before that, British colonization.<sup>60</sup> Different from the Netherlands and Chile, Nigeria has a mixed legal system combining common law, customary law, and Muslim law traditions.<sup>61</sup> The dominant framework overall is English-derived common law, but customary law still has some role in civil and personal relations and Muslim law sometimes governs issues surrounding personal status, where chosen.<sup>62</sup> The court system has separate tracks for these three legal traditions, and other than that, in many ways mirrors the Anglo-American system.<sup>63</sup> All federal laws were called decrees prior to 1999 and called acts after 1999,<sup>64</sup> whereas laws of the states are called edicts.<sup>65</sup>

### 3.3. OWNERSHIP AND RESPONSIBILITY FOR REGULATION

As mentioned briefly in *Section 2* above, there has been much debate in the media over the merits of public versus private ownership of water distribution systems.<sup>66</sup> Water in the Netherlands is provided by ten public water companies whose activities are

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<sup>60</sup> Y. Dina, J. Akintayo, & F. Ekundayo, *Update: Guide to Nigerian Legal Information*, Globalex: NYU Law School (2010), <http://www.nyulawglobal.org/globalex/Nigeria1.htm> (last visited 12 Apr. 2011).

<sup>61</sup> Juriglobe, *supra* note 53.

<sup>62</sup> Reynolds & Flores, *Nigeria: Foreign Law Guide*, [www.foreignlawguide.com](http://www.foreignlawguide.com) (last visited Apr. 12, 2011).

<sup>63</sup> Dina et al., *supra* note 60.

<sup>64</sup> Laws of the Federation of Nigeria, 1990-, <http://www.nigeria-law.org/LFNMainPage.htm> (last visited Apr. 12, 2011).

<sup>65</sup> Reynolds & Flores, *supra* note 62.

<sup>66</sup> See e.g., J. Budds & G. McGranahan, *Are Debates on Privatization Missing the Point? Experiences from Africa, Asia, and Latin America*, 15(2) *Env't. & Urban.*, 87 (2003).

coordinated and benchmarked by an association of those companies.<sup>67</sup> As of 2004, all water distribution must be controlled by government entities, although specific sub-services can be contracted-out.<sup>68</sup> Drinking water distribution is regulated by Water Boards,<sup>69</sup> mentioned above, as well as guiding national legislation and legislation implementing EU directives.<sup>70</sup>

The provision of drinking water in urban areas in Chile was completely privatized after 1988 legislation<sup>71</sup> and remains privatized today. Because of most of Chile's population is urban, this means that over 95% of the national provision of water services is privatized.<sup>72</sup> The sector is regulated at the national level by a separate modern agency, the Superintendencia de Servicios Sanitarios (SISS).<sup>73</sup> There are currently 58 private water and sanitation companies operating under concessions in Chile;<sup>74</sup> however, the Chilean government is still the largest shareholder in the water sector, holding roughly a 35% sum share in the nation's water companies through its holding and development company CORFO.<sup>75</sup> 50% of the population is served by one of two large companies, 35% of the population is served by one of six medium sized companies, and the remaining 15% of the population is served by one of fifty smaller companies.<sup>76</sup>

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<sup>67</sup> Vewin, *Drinking Water Fact Sheet 2010*, [www.vewin.nl](http://www.vewin.nl).

<sup>68</sup> Act No. 517 of 2004 to amend the Water Supply Act in relation with the ownership of water supply companies, *Staatsblad*, No. 517 of 26 October 2004; *see also* ECOLEX Record details [[www.ecolex.org](http://www.ecolex.org) Search>Netherlands & Water & Date:2004>Record Detail]; *also* D. Hall, E. Lobina, & R. de la Motte, *Making Water Privatization Illegal: New Laws in Netherlands and Uruguay*, PSIRU (2004), <http://www.psiru.org/reports/2004-11-W-crim.doc> (last visited Apr. 10, 2011).

<sup>69</sup> Salland Regional Water Authority (2010), <http://www.wgs.nl/talen/eng>.

<sup>70</sup> *See e.g.*, Drinking Water Act of 2009, (implementing Council Directive 98/83/EC and amending previous drinking water legislation).

<sup>71</sup> Decreto con Fuerza de Ley MOP N° 382 de 1988 - Publicado en el D.O. el 21-jun-1989.

<sup>72</sup> SISS, Informe de gestión, 24 (2009), [http://www.siss.gob.cl/articles-8333\\_recurso\\_1.pdf](http://www.siss.gob.cl/articles-8333_recurso_1.pdf).

<sup>73</sup> SISS (2011), [www.siss.gob.cl](http://www.siss.gob.cl).

<sup>74</sup> SISS, *supra* note 72 at 23.

<sup>75</sup> *Id* at 25.

<sup>76</sup> *Id* at 30.

In Nigeria, the question of ownership and responsibility for regulation of the drinking water distribution sector is much more complicated than it is for the Netherlands and Chile. Although responsibility is supposed to be shared between the three levels of the government, in reality the thirty-six state governments are responsible for urban water provision, and the hundreds of local governments are responsible for rural water provision.<sup>77</sup> Private participation through small vendors, carters and tankers is very common in filling the gap between demand and what the municipal household pipe and standpipe system can provide.<sup>78</sup> National policy as put forth by the Federal Ministry of Water Resources acknowledges the role of the private sector, especially small independent providers in meeting drinking water distribution needs in Nigeria.<sup>79</sup>

### 3.4. REGULATORY BODY CHARACTERISTICS

Drinking water distribution in the Netherlands is regulated at the national level by the Ministry of Infrastructure and the Environment and on the regional level by water boards.<sup>80</sup> The sector is incredibly transparent with exhaustive reporting and mandated periodic benchmarking requirements for the 10 public water companies.<sup>81</sup>

As mentioned briefly above, drinking water distribution in Chile is regulated at the national level by SISS. SISS is a very modern regulatory body that requires detailed

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<sup>77</sup> World Bank, *Water Supply & Sanitation Interim Strategy Note: Federal Republic of Nigeria*, 5 (2000), available at [http://siteresources.worldbank.org/NIGERIAEXTN/Resources/wss\\_1100.pdf](http://siteresources.worldbank.org/NIGERIAEXTN/Resources/wss_1100.pdf).

<sup>78</sup> *Id.*

<sup>79</sup> Nigerian Federal Ministry of Water Resources (FMWR), *Nigeria National Water Supply and Sanitation Policy*, 20(f), (2000).  
[http://www.nwri.gov.ng/userfiles/file/National\\_Water\\_Supply\\_and\\_Sanitation\\_Policy.pdf](http://www.nwri.gov.ng/userfiles/file/National_Water_Supply_and_Sanitation_Policy.pdf)

<sup>80</sup> Dutch Ministry of Infrastructure and the Environment (2011), <http://english.verkeerenwaterstaat.nl/english/>; see also W. Cramer, *The Dutch National Approval Scheme in a European Context*, 7(2009).

<sup>81</sup> Drinking Water Act of 2009, *supra* note 70.

reporting and record keeping. Periodic annual reports detailing performance and financial details of each drinking water company are collected and published by SISS.<sup>82</sup> Nigerian State Water Authorities are usually not functionally independent from state governments. There are cases where state governments require approval of rate increases, thereby subjecting the prices charged to political pressures to keep prices too low to recover costs, make investments to expand coverage or complete sufficient maintenance on existing assets.<sup>83</sup> Both state water authorities and local governments lack capability to effectively monitor or regulate in this sector.<sup>84</sup>

### 3.5. INVESTMENT REGIME (WHERE APPLICABLE)

While the investment regime is not particularly relevant for the Netherlands, where ownership and control in the water sector is limited to the government, the investment regime for drinking water could be potentially relevant for Chile and definitely relevant for a developing market like Nigeria. Chile's investment regime is widely regarded by foreign companies and foreign governments as very favorable to investment in the water sectors because of some of the sector characteristics described in other sections in this guide,<sup>85</sup> and thus will not be explored further in this section.

Nigeria, through the Nigerian Investment Promotion Commission (NIPC) actively encourages foreign investment in sectors that are not directly related to national security

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<sup>82</sup> See SISS, *supra* note 72.

<sup>83</sup> USAID, *Nigeria Water and Sanitation Profile*, 3 (2008), [http://pdf.usaid.gov/pdf\\_docs/PNADO937.pdf](http://pdf.usaid.gov/pdf_docs/PNADO937.pdf)

<sup>84</sup> World Bank, *supra* note 77 at 5.

<sup>85</sup> See e.g., U.K. Trade & Invest. Dept., *Sector Briefing: Water Opportunities in Chile*.



concerns, including the water sector.<sup>86</sup> The NIPC Act of 1995 attempts to create a stable a stable and open investment regime by removing restrictions on full-foreign ownership of businesses operating in Nigeria,<sup>87</sup> by making guarantees against expropriation or takings without timely, fair and adequate compensation,<sup>88</sup> and by clarifying forums in investment disputes.<sup>89</sup> Foreign companies must register in the same manner as domestic companies, under the Companies and Allied Matters Act.<sup>90</sup> However, the investment climate in Nigeria is made unfavorable by a combination of factors including high taxation and a distinctive tax system,<sup>91</sup> a transitioning labor law system,<sup>92</sup> complicated and outdated land policy,<sup>93</sup> corruption and lack of transparency,<sup>94</sup> and weak IP protection.<sup>95</sup>

### 3.6. SERVICE QUALITY STANDARDS

Drinking water distribution is essentially the service of providing a good to consumers and much like other services, governments tend to both regulate with quantitative standards and set qualitative goals for service. Setting standards for drinking water can have important direct positive effects for human health as well as indirect positive economic effects. The water sector typically is governed by a host of varied

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<sup>86</sup> Nigerian Investment Promotion Commission Act, (1990) Preamble, Art. 17 [hereinafter NIPC Act].

<sup>87</sup> NIPC Act, *supra* note 86 at Art. 17, 21.

<sup>88</sup> *Id* at Art. 25.

<sup>89</sup> *Id* at Art. 26.

<sup>90</sup> *Id* at Art. 26. See also, Companies and Allied Matters Act, (1990) Ch. 59 (Nigeria).

<sup>91</sup> See UNCTAD, *Investment Policy Review Nigeria*, 35 (2009), [http://www.unctad.org/en/docs/diaepcb20081\\_en.pdf](http://www.unctad.org/en/docs/diaepcb20081_en.pdf) .

<sup>92</sup> See *id* at 38.

<sup>93</sup> See *id* at 45.

<sup>94</sup> See *id* at 48.

<sup>95</sup> See *id* at 52.

regulations. Governments frequently set minimum standards for quality, including parameters for chemical, biological, and physical properties as well as requirements for monitoring and reporting.<sup>96</sup> It is worth noting in the example of the Nigerian standards, that the requirements do take note of the many possible modes of distribution, although their practical application may be questionable.<sup>97</sup> Also typical, especially in concession contracts, are targets for achieving a certain level of service.<sup>98</sup> However, setting standards is only the first step; effectiveness requires sufficient testing, reporting and monitoring capacity in the form of adequate regulatory agencies, discussed above.

Drinking water quality standards in the Netherlands must comply with or exceed the protection levels established by EU Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption.<sup>99</sup> After passing the Drinking Water Act of 2009, the Netherlands has fully implemented all of the monitoring and quality standard requirements.<sup>100</sup> Dutch water providers have full compliance with reporting and monitoring requirements as well as excellent water quality performance.<sup>101</sup>

Drinking water quality standards are enforced in Chile by SISS,<sup>102</sup> and were last updated in 2006.<sup>103</sup> Both compliance with sampling and monitoring requirements and compliance with water quality standards are compiled annually by SISS for each company providing drinking water, and data are promptly published. Overall, compliance with monitoring requirements and physical quality requirements is extremely

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<sup>96</sup> See e.g., Standards Organization of Nigeria, Nigerian Standard for Drinking Water Quality (2007), available at

[http://www.unicef.org/nigeria/ng\\_publications\\_Nigerian\\_Standard\\_for\\_Drinking\\_Water\\_Quality.pdf](http://www.unicef.org/nigeria/ng_publications_Nigerian_Standard_for_Drinking_Water_Quality.pdf).

<sup>97</sup> See *id* at 21 (establishing point of compliance monitoring/sampling for tanker delivered-water).

<sup>98</sup> Lang, *supra* note 3 at 807.

<sup>99</sup> 1998 O.J. (L 350) 32, (Council Directive 98/83/EC of 3 November 1998).

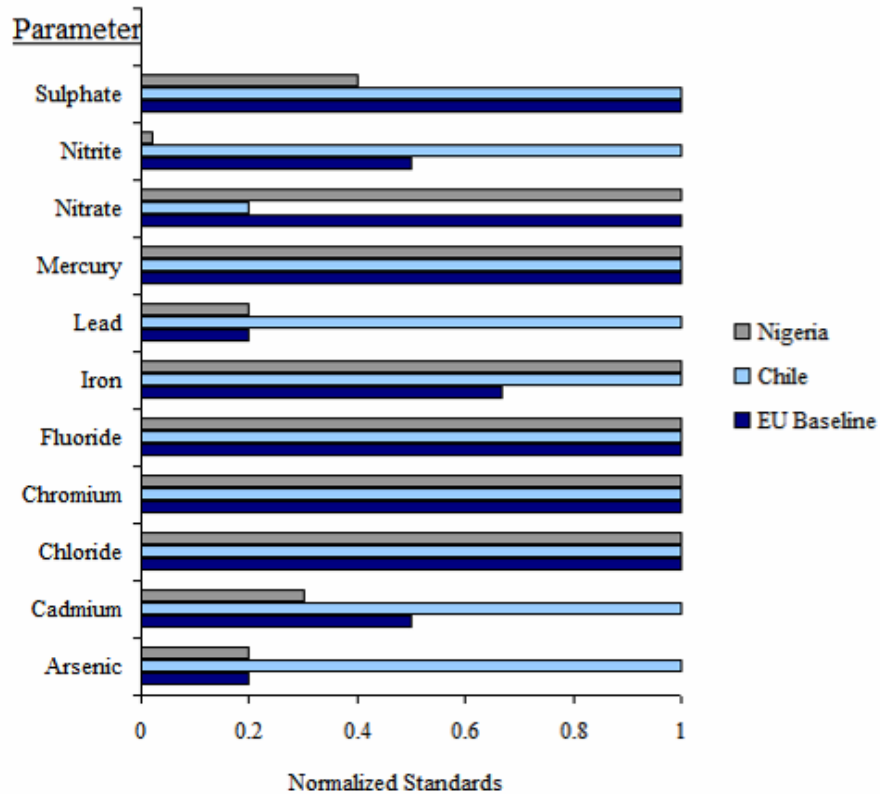
<sup>100</sup> Drinking Water Act of 2009, *supra* note 70.

<sup>101</sup> Vewin, *Reflections on Performance 2009*, [www.vewin.nl](http://www.vewin.nl).

<sup>102</sup> Reglamento de la Ley General de Servicios Sanitarios, D.S. MOP N°1199, dic/2004 (Sp.).

<sup>103</sup> Norma Chilena NCh409 /1.Of. 2005 (Sp.).

high for the most recent year, even though a large magnitude earthquake hit near several highly populated urban areas early in 2010.<sup>104</sup>



**FIGURE 2:** Normalized comparison of selected water quality standards.<sup>105</sup> As an example of how to read this chart, Chile currently allows maximum concentrations of lead in drinking water that are five times higher than the maximum concentrations allowed by the EU and Nigeria.

The current mandatory drinking water standards in Nigeria were promulgated in 2007 by the Standards Organization of Nigeria (SON), the Federal Ministry of Water Resources (FMWR) and the Federal Ministry of Health (FMH).<sup>106</sup> These standards were modeled on (and on-paper the structure of the standards is very similar to) the structure of

<sup>104</sup> See SISS, *Resultados calidad de agua potable año 2010*, <http://www.siss.gob.cl/article-8161.html> (MS EXCEL File, last visited Apr. 11, 2011).

<sup>105</sup> Data from: NIS 554: 2007; Norma Chilena NCh409 /1.Of. 2005; 1998 O.J. (L 350) 32.

<sup>106</sup> NIS 554: 2007, available at [http://www.unicef.org/nigeria/ng\\_publications\\_Nigerian\\_Standard\\_for\\_Drinking\\_Water\\_Quality.pdf](http://www.unicef.org/nigeria/ng_publications_Nigerian_Standard_for_Drinking_Water_Quality.pdf).

the European and Chilean quality standards.<sup>107</sup> FMH is responsible for monitoring and enforcing the drinking water standards.<sup>108</sup> Given that water supply coverage appears to be decreasing and deteriorating,<sup>109</sup> and that compliance data is unavailable, it is likely that Nigeria still lacks the capacity necessary to make drinking water standards effective.

Obligations to obtain a certain level of service (for example universal service obligations) have spawned much debate in the field of water distribution. Many utilities have traditionally cross-subsidized tariffs for lower income households with revenues from more-profitable areas; however, it has been argued that these subsidies should be redirected because they tend to benefit middle-income households, not lower-income households (who aren't connected to the network).<sup>110</sup> Focusing on cross-subsidization as a regulatory goal also neglects that, for the poorest, many studies that show a willingness to pay for tariffs that consistently exceed traditional conceptions.<sup>111</sup> Recent analysis of universal service obligations suggests that direct expansion subsidies are more effective for expanding networks than tariff/price adjustments.<sup>112</sup> Statistical demand-side studies also suggest that the most effective subsidies for expanding piped infrastructure service to low-income urban populations will be subsidies on connection fees, not on volumetric tariffs.<sup>113</sup> However, an untargeted or poorly-targeted subsidy<sup>114</sup> on connection fees will likely suffer from the same defects as traditional cross-subsidization policies and first

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<sup>107</sup> See *supra* Figure 2 showing similarity in drinking water standard limits.

<sup>108</sup> NIS 554: 2007, *supra* note 96 at Art. 4.

<sup>109</sup> See e.g., World Bank, *supra* note 77; see also, FMWR, *supra* note 79 at Sect. 9.

<sup>110</sup> A. Estache, A. Gomez-Lobo & D. Leipziger, *Utilities privatization and the poor: lessons and evidence from Latin America*, 29(7) World Development, 1179, 1194 (2001)

<sup>111</sup> See for example the prices paid by the poorest to independent water providers. World Bank, *supra* note 36 at 146. See also, D. Whittington, D.T. Lauria & X. Mu, *A study of water vending and willingness to pay for water in Onitsha, Nigeria*, 19(2/3) World Development 179 (1991).

<sup>112</sup> A. Estache, J. Laffont & X. Zhang, *Universal service obligations in developing countries*, World Bank Policy Research Working Paper No. 3421, 23 (2004).

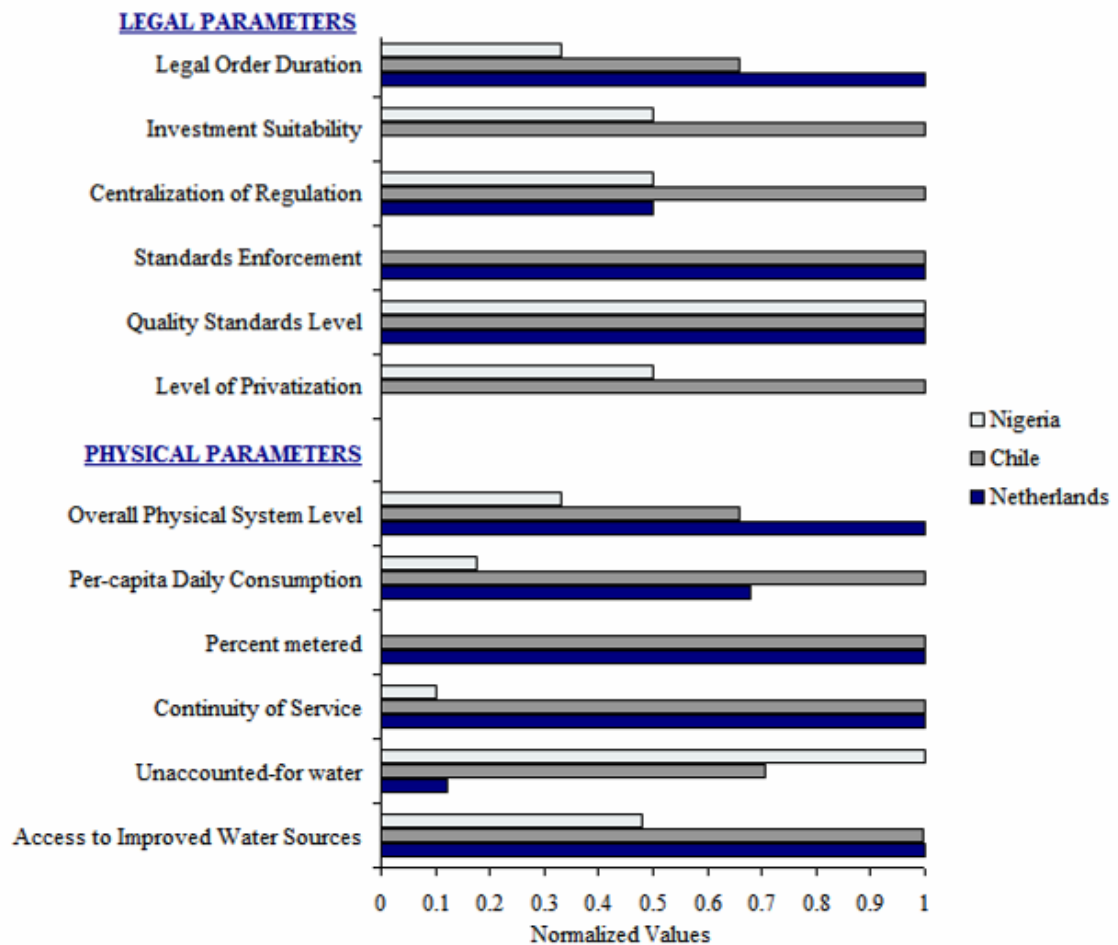
<sup>113</sup> Basani & Isham, *supra* note 7 at 963.

<sup>114</sup> "Targeted" subsidy refers in this case to a subsidy based also on household income or a similar proxy.

help the households at the wealthiest end of the segment which make the choice to connect first.<sup>115</sup>

### 3.7. EVALUATING PHYSICAL OUTCOMES

After characterizing the legal and regulatory regime governing drinking water distribution, the next step is to gather data on the physical state of drinking water distribution in particular countries, and analyze to determine which (if any) regulatory factors are best-correlated with positive outcomes for people and the environment.



<sup>115</sup> See Clarke et al., *supra* note 10 at 1532.

**FIGURE 3:** Graphical analysis of possible correlations between legal characteristics and physical system characteristics.<sup>116</sup>

Above, *Figure 3* represents the next step in analyzing regulatory effectiveness in producing positive outcomes for drinking water distribution. Based on information gathered in previous sections, rankings can be assigned to levels of each legal parameter explored. For example, Chile's regulation is more centralized (SISS) than the regulation of Nigeria and the Netherlands (regulatory authority shared between regional boards and national government) so Chile is weighted heavier in a parameter that describes centralization of regulation. Physical system parameters are normalized in a similar way below the legal parameters. Data for physical parameters were collected from the respective regulatory or monitoring bodies of these three countries. Note that in the above figure, higher weights or lower weights do not necessarily correspond to negative or positive results, due to how the parameters are defined. For example, unaccounted for water is the amount of water lost in distribution; thus higher relative values are a negative characteristic. But in contrast, the higher the relative value of access to improved water sources, the better.

Some relationships in the *Figure 3*, above, comport with common sense and the results of many studies. For example, key legal and regulatory areas that might have some causal or correlative relationship with Nigeria's physical status include Nigeria's lack of standards enforcement, relative youth in drinking water regulation, and general legal risk as represented by investment suitability on the chart. Confirming some studies, whether the factors for level of privatization and centralization are correlated with system

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<sup>116</sup> See discussion *supra* for Legal Parameters; for Physical Parameters see, VEWIN (*supra* note 101); SISS (*supra* note 72); FMWR (*supra* note 79).

characteristics is visually inconclusive. Chile's relatively high unaccounted-for water might be related to the fact that the sector underwent significant change and reform only roughly twenty years ago.

Beyond what we can see from looking at these three countries representing the range of development levels, studies have suggested several further general regulatory characteristics which constitute current best practice for improving water and sanitation for the least-well-served within the complex framework of the typical distribution systems described in *Section 2*, above. Many have confirmed that a key to the efficient improvement of service in this sector is the presence of an independent regulatory agency,<sup>117</sup> especially since many interactions and conflicts in the sector may be between public and private entities. Independent regulators are currently more prevalent in South America than in Africa.<sup>118</sup> Effective regulatory authorities that provide stable governance are also a major factor affecting the level of foreign direct investment in infrastructure in developing countries.<sup>119</sup>

Other regulatory recommendations and objectives derive more directly from the nature of multiple-mode water distribution in low-income urban areas. Regulations that encourage competition between independent providers (and do not limit the number of participants) are important, as well as legal recognition of dealings between municipalities/concessionaires and the informal sector.<sup>120</sup> On a related note, public works contracts are typically very large in scope; by not breaking down projects into smaller

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<sup>117</sup> See e.g., C. Briceno-Garmendia, A. Estache & N. Shafik, *Infrastructure Services in Developing Countries: Access, Quality, Costs, and Political Reform*, World Bank Policy Research Working Paper 3468, 22 (2004). See also Kirkpatrick & Parker, *supra* note 3.

<sup>118</sup> Collignon & Vézina, *supra* note 14 at 50.

<sup>119</sup> See Kirkpatrick et al., *supra* note 49 at 166.

<sup>120</sup> Collignon & Vézina, *supra* note 14 at 49, 57.

pieces, most of the informal sector is de facto excluded from participation.<sup>121</sup> It has been argued that one of the most effective things with respect to infrastructure services that a regulating agency can do to help the poorest is to promote competition among providers.<sup>122</sup>

Several regulatory goals promise indirect benefits. Improving planning of settlement and rapid growth areas and developing mechanisms to legally recognize “unauthorized” settlements will remain a crucial step for service expansion to the poor.<sup>123</sup> Also, because most water providers other than the municipality/concessionaire rely on informal pathways for raising capital, legally recognizing the role of independent providers will improve connections to the formal banking sector and will cut the costs of independent provider water by allowing financing of investments at lower interest rates.<sup>124</sup>

Having identified several priority areas for regulation in this sector, the next sections first introduce the relevant international agreements and then move on analyzing whether there is likely to be any practical effect from these agreements on drinking water distribution in developing urban areas.

#### 4. RELEVANT GLOBAL AND REGIONAL AGREEMENTS

##### 4.1. THE GENERAL AGREEMENT ON TRADE IN SERVICES (GATS)

Drinking water distribution is essentially a service, the core of which is moving water from a source to a consumer; along with this comes many subsidiary services like construction services to build and maintain infrastructure, billing services to collect

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<sup>121</sup> *Id* at 52. *See also* Kirkpatrick & Parker, *supra* note 3 at 1502.

<sup>122</sup> A. Estache et al., *supra* note 110 at 1192-1193 (2001).

<sup>123</sup> Collignon & Vézina, *supra* note 14 at 51.

<sup>124</sup> *Id* at 52.



revenue, and system operation services. This paper will primarily focus on the General Agreement on Trade in Services (GATS) which came into force in 1995, and is an agreement binding on all WTO members.<sup>125</sup> GATS and the more-expansive, more-often-studied General Agreement on Tariffs and Trade (GATT) are on equal footing, and sometimes overlap because the distinction between goods and services is not always a clear line.<sup>126</sup> This paper is not intended to be a thorough treatise on the GATS in general, and thus only provisions that are particularly relevant to the issue of drinking water distribution to the least-well-served will be highlighted. The discussion of the GATS will proceed in several steps. First, the threshold question of what falls under the agreement is covered. Note that GATS effectively has two levels of obligations related to services: one level of obligations is imposed on all WTO members and a higher level of obligations is imposed for specific sectors that members have negotiated and agreed to liberalize. Taking this into account, the next section will discuss what obligations GATS imposes on all members, and then subsequently discuss what obligations come after listing a specific service sector for liberalization. Lastly, the possible exceptions to obligations will be discussed before briefly touching on regional agreements and moving on to analyzing the potential intersections of GATS with drinking water distribution to the poorest in developing urban areas.

#### 4.2.THE SCOPE OF GATS

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<sup>125</sup> Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, Art. II:2, 33 ILM 1125 (1994). *See also*, Panel Report, *Canada — Periodicals*, paras. 5.14-5.16, WT/DS31/R (Mar. 14, 1997) [hereinafter *Canada — Periodicals*].

<sup>126</sup> *See* Panel Report on *Canada — Periodicals*, para. 5.17.

Starting off, GATS covers only “measures by Members affecting trade in services.”<sup>127</sup> This scope has several elements and these elements are elaborated on by additional provisions in Article I and by subsequent WTO Dispute Settlement Body (DSB) case law. The concept of “services” has been broken down into 4 modes of trans-boundary service: the supply of a service “(a) from the territory of one Member into the territory of any other Member; (b) in the territory of one Member to the service consumer of any other Member; (c) by a service supplier of one Member through commercial presence in the territory of any other Member; [and] (d) by a service supplier of one Member through presence of natural persons of a Member in the territory of any other Member.”<sup>128</sup> For urban drinking water distribution, the primary mode of transnational service supply, if any, will be through commercial presence in the territory of another member or possibly through the physical presence of natural persons in the territory of another member. The commercial presence mode of service supply has been interpreted very broadly,<sup>129</sup> as has the scope of services in general covered by GATS.<sup>130</sup>

“Services” for the purposes of GATS, however, do not include services supplied in the exercise of governmental authority.<sup>131</sup> This means that any service “which is supplied neither on a commercial basis, nor in competition with one or more service suppliers”<sup>132</sup> is potentially exempted. This exemption could be particularly relevant for water distribution. However, given the nature of the sector in focus in this paper, it is likely

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<sup>127</sup> General Agreement on Trade in Services, Apr. 15, 1994, Art I(1), 33 I.L.M. 1125 (1994), [hereinafter GATS]

<sup>128</sup> GATS Art. I(2).

<sup>129</sup> See Panel Report, *Mexico — Telecoms*, para. 7.375, WT/DS204/R (Apr. 2, 2004) [hereinafter *Mexico — Telecoms*].

<sup>130</sup> See Appellate Body Report, *EC — Bananas III*, para. 220, WT/DS27/R (Sep. 9, 1997) [hereinafter *EC — Bananas*].

<sup>131</sup> GATS Art. I(3)(b).

<sup>132</sup> GATS Art. I(3)(c).

that this exception will not remove drinking water distribution to the poorest from the scope of GATS. While no DSB report has considered the extent of the governmental authority exception, the provision has received considerable attention from academics and commentators. A two step test for determining the existence of competition has been proposed, asking whether two or more service suppliers supply the same or comparable service, and then whether one could substitute for the other.<sup>133</sup> The notion of “on a commercial basis” is similarly potentially a nebulous and hard-to-define term.<sup>134</sup> Commentators have elaborated many potential variations in the scope of the governmental authority exception based on language ambiguities,<sup>135</sup> but for this case, further discussion is unneeded. As discussed above, the reality of drinking water distribution systems in developing urban areas is that the sector has many private actors competing using various modes of distribution; so, for this particular sector, on its face, the governmental authority exception does not impede GATS from potentially applying.

As a final point, GATS covers “measures ... affecting trade in services”<sup>136</sup> where measures can be undertaken by central, regional or local governments or, if powers have been delegated, by non-governmental bodies.<sup>137</sup> The issue of whether a measure “affects” trade in services is a threshold question before analysis under further substantive provisions of GATS.<sup>138</sup> To determine whether a measure affects trade in services, a panel is supposed to examine *who* supplies the services at issue, and *how* such

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<sup>133</sup> Markus Krajewski, *Public Services and the Scope of the General Agreement on Trade in Services (GATS)*, Center for International Environmental Law, 12, available at <http://www.ciel.org/Publications/PublicServicesScope.pdf>.

<sup>134</sup> See *id* at 11.

<sup>135</sup> See *e.g.*, *id*.

<sup>136</sup> GATS Art. I(1).

<sup>137</sup> GATS Art. I(3)(a).

<sup>138</sup> Appellate Body Report, *Canada — Autos*, paras. 151-152 and 155, WT/DS142/AB/R (Jun. 19, 2000) [hereinafter *Canada – Autos*].

services are supplied, to understand how a measure bears upon the capacity of service suppliers.<sup>139</sup> Moving beyond the threshold matters, the next section will highlight obligations on all WTO members once an issue falls under the scope of GATS.

#### 4.3.GENERAL OBLIGATIONS

GATS imposes several substantive requirements and obligations on all WTO Members regardless of whether a Member has listed a particular sector as open for services liberalization. Similar to the GATT, GATS requires “most-favored nation” (MFN) treatment in services,<sup>140</sup> meaning that a country can not treat “like” services from any two countries differently.<sup>141</sup> The GATS MFN clause is interpreted in a manner similar to the MFN clause under GATT and forbids both de jure and de facto discrimination in treatment.<sup>142</sup> To determine whether services are “like,” the panel looks at each constitutive subservice and evaluates the level of similarity. For example, a panel found that services transporting bananas from two different locations were “like” for the purposes of GATS Article II because each sub-service within shipping was virtually the same between the two enterprises, differing only in the location where it occurred.<sup>143</sup> In drinking water distribution, especially in developing urban areas, the types of services provided are very context-specific; therefore it is conceivable and even likely that a panel would find that distribution by different modes, or in areas with different demographics or socio-economic indicators would be not be “like services” for the purposes of GATS

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<sup>139</sup> See Appellate Body Report on *Canada — Autos*, paras. 164-166.

<sup>140</sup> GATS Art. II(1).

<sup>141</sup> Except for perhaps trade within integrated or closely-tied border regions. See GATS Art. II(3).

<sup>142</sup> Appellate Body Report on *EC — Bananas III*, paras. 231-234.

<sup>143</sup> Panel Report, *EC — Bananas III*, para. 7.322 WT/DS27/R (May 22, 1997) [hereinafter *EC — Bananas III*].

and thus could be treated differently by regulations. Note that members also must ensure that monopoly providers or de facto exclusive service providers act consistently with MFN obligations.<sup>144</sup>

GATS aids liberalization in trade in services by requiring minimum notice and transparency in measures potentially affecting trade in services.<sup>145</sup> Members must promptly publish or make public laws and changes to laws that potentially affect trade in services, notify the Council for Trade in Services of any changes, respond to inquiries from other Members regarding clarification of laws, and establish a point of contact for such inquiries.<sup>146</sup> As of yet, there has been no pertinent interpretation of this article. Although a bit fuzzy, presumably a remedy for a violation of this article would involve clarification of some law, regulation or policy that when applied in a certain manner impedes trade in services.

#### 4.4.OBLIGATIONS FOR SCHEDULED SERVICE SECTORS

Additional requirements and obligations apply to sectors that a Member has agreed to list as more open to liberalization. If a country has listed a particular sector in its schedule of commitments, then it may not restrict participation in that market by foreign service providers (for example by granting monopoly rights to a single provider).<sup>147</sup> Service providers must be given national treatment (treatment no less favorable than that given to “like” domestic service providers).<sup>148</sup>

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<sup>144</sup> See GATS Art. VIII.

<sup>145</sup> GATS Art. III.

<sup>146</sup> See *id.*

<sup>147</sup> See GATS Art. XVI.

<sup>148</sup> GATS Art. XVII.

At present these additional obligations are a nonissue because drinking water distribution services have not been listed on any country's schedule of commitments. Providing drinking water actually encompasses many smaller, potentially severable services<sup>149</sup> which, although not currently defined, are likely to come under the heading of environmental services in negotiations.<sup>150</sup> Although it is very possible that most developing countries will avoid liberalizing so as to protect their domestic markets, the pressure to liberalize drinking water distribution has grown. Several proposals for further defining this category have been put forth,<sup>151</sup> and one of the largest proponents of liberalizing water services<sup>152</sup> under GATS has been the EU -- home to some of the world's most economically-powerful<sup>153</sup> water multinationals.<sup>154</sup> Several commentators note that due to the weight of these companies, the EU has begun discussions with countries to obtain commitments for liberalization of water and environmental services.<sup>155</sup>

#### 4.5.EXCEPTIONS TO OBLIGATIONS

GATS contains a provision for general exceptions that is very similar to the analogous provision in the GATT. Of particular relevance for drinking water distribution, countries may regulate with measures "necessary to protect human, animal,

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<sup>149</sup> See Zettel, *supra* note 3 at 21.

<sup>150</sup> *Id* at 19.

<sup>151</sup> See e.g., WTO, *Communication from the United States. Environmental Services*, S/CSS/W/25, Dec. 18, 2000. See also, WTO, *Communication from the European Communities and their Member States. GATS 2000: Environmental services*, S/CSS/W/38, Dec. 22, 2000.

<sup>152</sup> GATS Art. XVIII, "Market Access."

<sup>153</sup> The two largest global water companies, Veolia and Suez Environnement, supply drinking water to 95 million and 91 million people respectively and have annual revenues on the order of 10-15 billion euros. Veolia is currently operating in 66 countries and employees roughly 95,000 people. See Veolia, [www.veoliawater.com](http://www.veoliawater.com); see also Suez Environnement, [www.suez-environnement.com](http://www.suez-environnement.com).

<sup>154</sup> Kirkpatrick & Parker, *supra* note 3 at 1496 and fn. 1.

<sup>155</sup> See *id*.

or plant life or health” provided that such regulations comply with the article’s chapeau.<sup>156</sup> The chapeau requires that measures not be applied in a manner which constitutes arbitrary or unjustifiable discrimination and also that measures should not be disguised restrictions on trade in services.<sup>157</sup>

Given the patently clear impacts of drinking water distribution to the poor on human health, Member countries potentially have extensive wiggle room in how they regulate drinking water distribution. On the other hand, one commentator, discussing more-developed drinking water distribution systems, argues that many regulations affecting these systems have only a very tenuous connection to human health concerns (for example utility tax structures).<sup>158</sup> However, it seems natural that the weight of the human health concern in regulating the water industry depends on the current state of development and also that some measures will be more necessary than others. The kinds of regulations and objectives discussed in this paper would likely almost on their face fit under the Article XIV(b) category and then go to evaluation under the Article’s chapeau. Adding weight to the idea of exceptions for regulation of drinking water distribution, the GATS Preamble explicitly recognizes the right of countries to regulate in pursuit of national objectives<sup>159</sup> and many developing countries pursue the Millennium Development Goals (MDGs include improving access to drinking water) as a national objective.

#### 4.6.BRIEF NOTE ON REGIONAL AGREEMENTS

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<sup>156</sup> GATS Art XIV(b).

<sup>157</sup> See GATS Art. XIV.

<sup>158</sup> See Lang, *supra* note 3 at 836-37.

<sup>159</sup> GATS Preamble.

The primary focus of this analysis is on GATS. However, given the rapid proliferation of regional and bilateral agreements, it is worth pointing out potentially relevant provisions in a regional agreement as an example: the Common Market for Eastern and Southern Africa (COMESA). While not particularly relevant now given that the only main water distribution service exporters are European companies, the COMESA agreement is likely to become relevant in the next few decades because of the uniqueness of the issues in drinking water faced by members of COMESA. Should one country within COMESA develop a particular expertise in multi-modal water distribution, then potential provisions relating to cross-border services liberalization between members, as detailed below, could affect knowledge transfer to other members and potentially could more-rapidly improve drinking water distribution.

The COMESA treaty came into force in 1994 and includes 23 nations.<sup>160</sup> It contains several provisions appearing to mandate liberalizing services within the region,<sup>161</sup> including a provision within the field of economic and social development.<sup>162</sup> Of particular importance for drinking water distribution, the treaty explicitly favors privatization efforts in services.<sup>163</sup> The treaty<sup>164</sup> established the COMESA Court of Justice to hear any disputes arising under the treaty,<sup>165</sup> but the court has up to now only heard a limited number of cases.<sup>166</sup> Even though this regional agreement will likely be relevant to analysis of economic integration and drinking water in the future (given its

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<sup>160</sup> Treaty Establishing the Common Market for Eastern and Southern Africa, Preamble, Jun. 6, 1994 [hereinafter COMESA Treaty].

<sup>161</sup> See COMESA Treaty, Art. 164.

<sup>162</sup> COMESA Treaty, Art. 6(e).

<sup>163</sup> COMESA Treaty, Art. 62, "Trade Promotion."

<sup>164</sup> COMESA Treaty, Art. 7.

<sup>165</sup> COMESA Treaty, Art. 23-30.

<sup>166</sup> See WorldCourts, *COMESA Court of Justice Decisions*, <http://www.worldcourts.com/comesacj/eng/index.htm> (listing 7 decisions published between 2002 and 2003 as of March 2011, none related to this paper's topic).



membership), GATS is significantly more important now because most of the drinking water service exporters are located outside of COMESA.<sup>167</sup> Accordingly, only GATS will be used in the analysis below.

## 5. DOES GATS AFFECT THE MOST CRUCIAL OBJECTIVES FOR IMPROVING DRINKING WATER DISTRIBUTION TO THE LEAST WELL SERVED?

*Sections 2 and 3*, above, identified several regulatory areas and objectives that are critical to improving drinking water distribution for the least-well-served in developing urban areas, including instituting legal recognition of small alternative drinking water providers, providing connection fee subsidies, moving towards an independent drinking water regulatory body, and improving the effectiveness of drinking water quality standards and monitoring. For the reasons discussed below, GATS is likely to have slightly positive (if any) effects on these objectives and thus slightly positive or at worst negligible effects on water for the poorest segments in developing urban areas.

### 5.1.1. THEORETICAL INTERSECTIONS BETWEEN GATS PROVISIONS AND REGULATORY OBJECTIVES TRUMPED BY “REAL WORLD” CONSIDERATIONS

There are of course potential scenarios one could dream up where a developing country’s attempts to achieve the objectives stated above could run afoul of its obligations under GATS; however, a WTO case arising out of these situations is very unlikely and therefore the practical effect of GATS on this sector are likely to be minimal.

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<sup>167</sup> Zettel, *supra* note 3 at 19.

For example, in the case of connection fee subsidies, one might imagine a scenario where a foreign private utility, call them Utility #1, operating a concession in one part of a country has many poor households and thus under a new government policy granting connection subsidies, many new people are able to afford to connect to the piped network. Another foreign (different country of origin) private utility company, Utility #2, operating in another area has fewer ultra-poor residents, its consumers do not receive as many subsidies, it does not meet its contractual service extension requirements and its concession is cancelled or not renewed. Could the home country of this Utility #2 pursue a claim for a violation of the MFN obligations? The answer is in theory, potentially yes; but, in reality, for the reasons to be discussed after the next example, the home country of Utility #2 is extremely unlikely to press this case to the WTO level.

From a theoretical standpoint, a panel hearing a GATS claim starts with threshold questions under Article I, and then moves on to the substantive violation claims, under Article II in this case.<sup>168</sup> A country would essentially claim that a measure by the government of this market country is affecting trade in services and that there is de facto discrimination between like service providers from different foreign countries. Walking through the required analysis, a service must first fit into the covered types of services for GATS.<sup>169</sup> Drinking water distribution as defined in this example would clearly fit under either mode 3 or 4 because it involves a commercial presence in another member country and likely the presence of foreign natural persons (often system managers) in another member country. Private utilities competing for short term concession contracts clearly fall outside the scope of the government authority exception. To determine whether a

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<sup>168</sup> Appellate Body Report on *Canada — Autos*, paras. 151-152 and 155.

<sup>169</sup> GATS Art. I(1).

measure “affects” trade in services, a panel is supposed to examine who supplies the services at issue, and how such services are supplied, to understand how a measure bears upon the capacity of service suppliers.<sup>170</sup> In this case, we are dealing with companies who compete for contracts to distribute water, and these contracts are typically granted or renewed based on past performance numbers. One of the common indicators is how much a utility was able to extend service to new areas. A government measure that affects the performance numbers of competing utilities potentially has an effect on the ability of those utilities to compete for concession contracts and thus to supply water services and would likely pass the threshold issues of Article I.

Moving to the substantive claim, a claimant country would first have to argue that the services provided by these two utilities are “like.”<sup>171</sup> The issue of likeness in water distribution may not be an easy one. If following the analysis of the Panel in the EC-Bananas III case, a panel would look at each constitutive service supplied by the different utilities. While the overall drinking water system for a city may be very different from other cities, with different combinations of modes and challenges (see *Section 2* above), the individual services supplied by pipe network concessionaires would likely be fairly similar. The contexts and challenges for each area might be quite different though, and given the scarce WTO case law on GATS, it is unclear how much a panel would take this into account. If the services are not “like,” then there is no MFN claim. If they are found to be “like,” and treatment is found to be less favorable to one country’s utility, then the

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<sup>170</sup> See Appellate Body Report on *Canada — Autos*, paras. 164-166.

<sup>171</sup> See Panel Report on *EC — Bananas III*, para. 7.322.

market country still has a strong possibility for a general exception<sup>172</sup> given the health effects of water on the poorest and that the measure is connection subsidies for the poor.

As a another example that is more relevant for the poorest segments but that is even less likely to result in a WTO claim: changing the legal recognition of small alternative drinking water providers,<sup>173</sup> a crucial step in improving drinking water for the poorest, could conceivably either constrain trade in services in the informal part of the distribution market or in the formal part (piped). Expanding or formalizing the role of small alternative providers in a city could diminish the market share of and hurt the value of the full-city pipe concession contract that major multinationals compete for. On the flip side, lowering the level of legal recognition of small providers in a particular city could disproportionately adversely impact a sector dominated by nationals of a particular country over another country (say for example foreign entrepreneurs working small water distribution services systems under mode 4).<sup>174</sup> In the case of regulating drinking water quality, if regulation and enforcement is decentralized, then one could imagine a scenario where a private water service provider in one region is more closely monitored and heavily penalized for infractions than private utilities from other countries operating in other regions. The analysis for both of these issues would follow the pattern in the first example where potentially yes, there is a conceivable (though maybe not successful) claim that could arise from a developing country's attempts to regulate to improve drinking water distribution for the poorest in developing urban areas.

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<sup>172</sup> See GATS Art XIV(b).

<sup>173</sup> For a comprehensive discussion of the full range of possible levels of government recognition and engagement with the private water sector, see Kevin Sansom, *Government Engagement with Non-State Providers of Water and Sanitation Services*, 26 Public Admin. Dev. 207 (2006).

<sup>174</sup> See GATS Art. I.

However, the reality is that claims for any of these or similar scenarios are exceedingly unlikely to be brought against a developing country. Business interests will drive where companies choose to invest in or export services to, and stability is essential in a business like water distribution where capital costs are high and typical contracts have long time periods. Many of the poorest developing urban areas represent a higher business risk yet returns from the water sector are almost never high; thus the trend in exporting water services will likely mirror the current trend in foreign investment in general in the water sector.<sup>175</sup> Furthermore, unless an utterly huge commercial interest is at stake (which is unlikely in drinking water distribution in developing urban areas), countries are extraordinarily unlikely to bring a claim against a developing country that might interfere with drinking water regulation. Private water companies took a significant public-relations hit in the 1990s from highly-publicized concession failures in South America. Using the GATS to attack a developing country for a drinking water-related regulation that has even a color of legitimacy would undoubtedly be a public relations disaster of a whole other magnitude entirely. In a purely business sense, such a move would likely hurt a company's future ability to enter desired lower-middle income markets.

#### 5.1.2. THE BENEFITS OF GATS AND GLOBAL ECONOMIC INTEGRATION AS A MORE-ABSTRACT TREND

The broad effects of growing transnational economic integration on water distribution to the poorest segments are potentially positive. The combination of GATS, regional agreements, and the general historical trend towards greater private sector participation in water services, make it more likely than not that private sector involvement will continue

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<sup>175</sup> See Annamraju et al., *supra* note 46.

to increase in the future.<sup>176</sup> Some potential effects of increased private sector involvement in both the piped infrastructure and non-piped distribution include: (1) increasing formality of the informal sector, (2) adjusting price levels and structures, (3) increasing the costs of some alternatives/substitute sources, and (4) improved levels of service.<sup>177</sup> Each of these possible effects could have positives and negatives for the poorest segment of the population in developing urban areas. Increasing formality may increase payment collection efficiency and therefore the effective price paid by the poorest, but it also might allow better regulation and improved health and safety.<sup>178</sup> Tariffs/prices charged could either increase because of greater private desire to cover costs and profit, or increased private competition could keep prices down.<sup>179</sup> The extent to which private monopolies are allowed to form could have important effects for the poorest, as discussed earlier.<sup>180</sup> Improved service levels could mean higher tariffs charged to cover costs, but it also means better health and safety for the poorest.<sup>181</sup>

## 6. CONCLUSION

The “sector” that encapsulates drinking water distribution in developing urban areas is a very complex mixture of distribution modes and different public and private actors, each with different capabilities and characteristics. Experience and academic studies have provided a kind of set of best management practices for focus areas and objectives to improve drinking water distribution for the poorest segments of the population in these

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<sup>176</sup> See Zettel, *supra* note 3 at 28.

<sup>177</sup> Estache et al., *supra* note 112 at 1182.

<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

<sup>180</sup> See *id.* at 1192-93.

<sup>181</sup> *Id.* at 1182.

areas. This paper posed the question of whether increasing global and regional economic integration might bring some benefits to improving drinking water distribution for the least-well-served in developing urban areas. The answer is that this trend is likely to either do nothing or have slightly positive effects on drinking water distribution. As shown above, drinking water distribution could potentially fall under the GATS umbrella, but direct results from GATS on this sector in developing countries are likely to be negligible. However, slight positive benefits are promised by the general trend that GATS both represents and fosters, and thus this analysis provides support for the position that much of the hype that GATS will undermine services to the poor is misdirected.