Basic sanitation policy in Brazil: discussion of a path

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Received for publication in April 2014.
Approved for publication in September 2014.
Translated by Rebecca Atkinson.


Abstract
This article demonstrates that the position of dominance enjoyed by state sanitation companies dictates the public policy decision-making process for sanitation in Brazil. These companies’ hegemony is explained here through the analysis of a path that generated political and economic incentives that have permitted its consolidation over time. Through the content analysis of the legislation proposed for the sector and the material produced by the stakeholders involved in the approval of new regulations for the sector in 2007, the study identifies the main sources of incentive introduced by the adoption of the National Sanitation Plan, which explain certain structural features of the current sanitation policy and its strong capacity to withstand the innovations proposed under democratic rule.

Keywords: sanitation policy; regulatory regime; path dependence; sanitation law; Brazil.
This article demonstrates that past public policies and the position of dominance achieved by state sanitation companies lie behind some of the obstacles that have blocked the main regulatory innovations proposed by the Union for the modernization of the sector since the return to democracy.

First, we identify the main innovations vetoed by state stakeholders in the sanitation sector in their bid to prevent the political and economic costs that might threaten their hegemony in the provision of these services in Brazil. To justify this statement, we make a comparative analysis of the content of the innovations originally proposed in the bill submitted to the federal executive branch of government after the end of the National Sanitation Plan with the content of the innovations effectively introduced in the new sanitation law in response to the action of these groups in the legislative arena. The content analysis of reports and statements made by the stakeholders involved in the decision-making process for the sector at the time corroborate this conclusion, as we will see later on.

The importance of state sanitation companies in the provision of sanitation services in Brazil has its roots in the National Sanitation Plan, introduced by the military government in 1971. Managed by the respective states’ executive branches, these companies operated for almost two decades according to guidelines handed down by the Union for the sector. Local authorities were alienated from this process and remained so even after the plan was revoked in 1991. They continued to be relegated to a passive role until a new law for the sector was brought out in 2007 (Brasil, 5 jan. 2007).

Even after the end of the military dictatorship, the institutional and technological framework introduced by the National Sanitation Plan for the country’s sanitation services survived practically intact in the operations of the state sanitation companies, which began to freely dictate the sector’s agenda in the complete absence of any regulations under the new scenario. Alongside other direct and indirect beneficiaries of the state arrangement, they became an important interest group, voicing the concerns of the sanitation sector in the new context of democracy.

The historical hypothesis developed here to explain the resilience of the structure put together by the National Sanitation Plan is based on the notion of path dependence proposed by historical neo-institutional theory, which highlights the influence of past choices on the subsequent development of public policies. The notion of path dependence assumes that the arrangements inherited from an initial public policy will shape and mold the incentives and resources of the social players involved in it. It is this that explains the structural aspects of the public policy for sanitation and its great capacity to withstand the changes proposed by the Union under democratic rule.

**Institutions and public policies: theoretical and methodological implications**

In the first half of the twentieth century, two theoretical approaches addressing the phenomenon of political decisions and collective choices polarized the debate in the field of political science. The first, old institutionalism, defended the normative idea that formal political institutions, like constitutions and laws, tend to constrain the behavior of individuals. Grounded on speculative, descriptive, formalistic analyses, this approach prioritized the
analysis of the texts of constitutions in different countries with the aim of identifying the strengths and weaknesses of each constitutional model. The idea was to perfect the models adopted in order to mold behaviors. As such, scholars from this school were far more concerned about normatively establishing prescriptive models of “constitutional design” to meet desired policy requirements than facing up to the objective facts of policies, which translated the real dynamics of the actors and their political behavior more concretely (Peres, 2008).

As of the 1930s, the emergence of new mass political phenomena like National Socialism, fascism, and political alienation gradually eclipsed the explanatory power of this kind of formal approach, which had until then reigned supreme in political science. In the following decade, this opened the way for the strengthening of a new approach centered more around the concrete dynamics of politics per se, based on factual investigations, the proposition of hypotheses, and empirical generalizations. These new studies introduced more advanced statistical analysis techniques as well as comparative methods that were already being used in other social sciences, like sociology and anthropology. The increased analytical and methodological sophistication of these studies triggered an epistemological revolution in the field of political science, making the former institutionalism an obsolete scientific paradigm for the analysis of the political phenomena of the day.

Some authors argue that this about-turn was based on a deeper-rooted theoretical and normative schism, which opposed the pluralistic vision of democracy against the republican vision that had prevailed until then. From a republican perspective, democracy was associated with the normativism of political philosophy and Rousseau’s ideas about a direct, harmonious democracy, while in pluralism, democracy was linked to conflicts between different groups of stakeholders in society and their capacity to represent their interests in the centers of power. In this sense, the pluralists’ rejection of the idea of popular sovereignty contained in the old institutionalism was what paved the way for the birth of a new school within US political science in the 1940s: behaviorism (Peres, 2008).

Inspired by transformations underway in the field of psychology and other social sciences, behaviorism emerged in American psychology as of Watson’s ([1913] 1997) criticism of contemporary analytical theoretical perspectives, which were strongly marked by introspective methods and cognition-centered analyses. Watson’s idea was to abandon all subjective speculations in psychological analyses in favor of scientism, oriented by objective investigations based on observations, as used in the exact and life sciences. This resulted in a shift from research focused on mental phenomena towards empirical observations of behavior (Watson, 1997).

The novel proposal of behaviorism in psychology also influenced sociology and anthropology in the quest for more empirical investigative methods. In political science, behaviorism broke away from the former institutionalism, promising a positive, empirically oriented, more conceptually rigorous theory that was also open to the multiple methodological approaches of the other humanities and social sciences. Its development shifted political scientists’ attention from formal legal and administrative institutions to people and their behavior, values, and goals (Peres, 2008).
Behaviorism became hegemonic in the 1950s, retaining this position until the mid-1960s, when it started to be criticized for its theoretical and empirical limitations in addressing political phenomena and also for the loss of the analytical specificity inherent to the field of political science. The harshest criticisms stressed the limitations of interpretations geared exclusively towards the political actions of individuals, essentially ignoring the institutional context of the political sphere and the formation of its preferences, as well as the dilemmas of collective action of which these individuals were part (Peres, 2008). Furthermore, the behaviorists’ attempts to transpose the methods of the natural sciences to the humanities and social sciences ultimately laid bare the limited explanatory power of this kind of approach, because human and political behavior did not respond universally to the hypotheses formulated.

The reaction to the behaviorist paradigm brought back concerns about institutions towards the end of the 1960s. However, this did not mean turning back to the old institutionalist roots. Rather, the reintroduction of institutions to political analyses came about while still respecting the scientific rigor of behaviorism. In this sense, it is fair to state that the development of a neo-institutionalist school as of the late 1970s came about both as a reaction to and a synthesis of the old institutionalism and behaviorism. From the former it retained a recognition of the centrality of institutions in modeling political action; from the latter it continued to value methodological rigor in the concepts used and the empirical orientation of the research (Peres, 2008).

Neo-institutionalists believe that institutions constrain and restrict political behavior, shaping and/or structuring the actions of individuals by limiting their options and potential courses of action. With its broad theoretical stance, this approach spawned a wide range of studies in the following decades, which even today hampers a precise delimitation of its boundaries. Generally speaking, they can be grouped into two main currents: those that adopt methodological individualism and follow rational choice theory, and those that do not adopt methodological individualism, split between sociological and historical currents (Fernandes, 2002; Hall, Taylor, 2003; Peres, 2008).

The rational choice (or “public choice”) neo-institutionalists adopt methodological individualism based on a deductive logic: that institutions are endowed with dilemmas of collective action because they are made up of political players who act in a calculated and egotistical way in order to maximize their own gains. The sum of these preferences thus yields a collective decision or collective political effect. What matters for this kind of analysis is essentially the decision-making process per se, in a context in which preferences have already been decided on (Fernandes, 2002). Another perspective that draws on rational choice is economic neo-institutionalism. In a bid to take account of the paradigm of maximizing behavior described above, this current incorporates the notion of uncertainty into analyses of decision-making processes. In this case, institutions are understood as acting in such a way as to annul or minimize the transaction costs inherent to market systems in order to overcome the dilemmas of collective action caused by opportunistic behavior (Fernandes, 2002).

The strategic calculation and the problems generated by opportunism and uncertainty in political and institutional behavior are also taken into account in the other neo-institutionalist currents. However, unlike those perspectives that adopt methodological individualism, the
followers of the sociological and historical schools of thought believe that the calculations and rational choice of individuals and their very identities and preferences cannot be taken as given; rather, they are affected by existing institutions through social and cultural processes. In the sociological school of thought, culture is taken as a determining variable of political behavior and also the behavior of institutions. Meanwhile, these institutions are instrumental in shaping the political behavior and preferences of the actors through collective processes of political socialization (Fernandes, 2002).

Like sociological neo-institutionalism, the historical school of thought also understands that political choice depends more on the social interpretation of the subject than instrumental calculations per se. Based on the criticism of methodological individualism, which assumes the maximizing behavior of individuals to deduce their political choices, it starts out from existing institutions to explain the preferences and maximizing behaviors. This means that the social interpretation of decision-making processes and the preferences of political actors are defined and forged by the institutional structure of which they are part. In both perspectives, the hierarchy of the most important factors for the study of each case is given after the event, depending on the scenarios encountered.

Despite the differences and peculiarities of the different deductive theories, like Marxist theory, systems theory, and the neo-institutionalist theory of rational choice, they all share – on an abstract plane – a similar theoretical design, which is based on deduction deriving from certain theoretical assumptions and the application of a set of universal concepts. Unlike these, the other neo-institutionalist currents do not formulate their hypotheses before the analysis based on overarching assertions; they normally do so inductively during the empirical analysis – an aspect that attracts much criticism from the other schools of thought.

The defense they offer is that political behavior cannot be analyzed like an exact science because it depends on human action. What distinguishes social and political phenomena from natural ones is the fact that humans consciously affect the environment in which they live, which adds the variable of unpredictability of choice to the analysis. This introduces not just another source of analytical complexity, but also suggests that the assumptions behind social analyses differ from those used in the natural sciences, since the quest for the same regular laws that govern nature cannot explain the totality of the social outcomes, but only some of the conditions that affect them (Steinmo et al., 1992, p.26-27).

The historical neo-institutionalists admire the efficiency of macro-theories in analyzing large socioeconomic structures and recognize that they set the parameters of politics on a broader level. However, they point out their inability to fully explain the variety of political outcomes observed. To bridge this gap, they proposed deepening the understanding of the role of political action on each set of circumstances in particular. This meant assuming that political behavior does not depend exclusively on macroeconomic structures, but is itself an independent variable (Steinmo et al., 1992, p.11-12).

The idea of analyzing politics on an intermediate theoretical level gave the neo-institutionalists, especially those of a historical bent, the chance to build important analytical bridges for understanding political continuities and variations over time and space. By focusing on the institutional arrangements that structure the relationship between state and society, they managed to combine state- and society-centered analyses. Thanks to this, they
developed, for instance, original analyses based on the idea of state autonomy, where the state is understood as an institution capable of formulating its own goals and meeting targets. Furthermore, by identifying the intermediate-level variables responsible for the diversity of political outcomes, they enabled the integration of the empirical approach of reality with the existing macro-theories and thus improved their explanatory power. Indeed, the adoption of a mid-range theoretical approach was precisely what enabled this school of thought not to overlap with the existing macro-theories: by shedding light on how macrostructures are maximized or minimized by mid-level institutions, they made it possible to explore the effects of these larger structures on political outcomes while avoiding the structural determinism that tends to feature in Marxist and functionalist macro-theories and other systemic approaches (Steinmo et al., 1992).

For historians, the emphasis on institutions does not replace the attention due to other variables, like interests, strategies, stakeholders, and the distribution of power between them. In truth, by putting these variables in context, this current can demonstrate how they interrelate and how political situations take shape. Institutions may constrain politics, but they are never the sole cause of political outcomes. By putting structural elements at the heart of the analysis, this kind of approach enables theoreticians to pick up on the complexities of the concrete political situation, but not to the detriment of theory (Steinmo et al., 1992).

The starting point for the historical neo-institutionalists is the pluralist idea that conflicts between rival groups over resources lies at the heart of politics, but they stress that the course taken by the political or economic structure where the conflict takes place will give precedence to some interests over others, sparking asymmetrical power conflicts and relative advantages (Hall, Taylor, 2003). The evolution of the social structure and the path of the political decisions and choices of actors over time is what shapes the political arena and defines the existing institutions. The understanding of how institutions structure political interactions and, in this sense, affect their outcomes, links those who make history and the circumstances in which they do so, from a theoretical perspective (Steinmo et al., 1992). The centrality of the historical approach in this kind of analysis enables an understanding of the general patterns of political history to be integrated with an explanation of the contingent nature of historical political and economic developments. It also gives a better comprehension of the role of political action, conflict, and choice in shaping these developments (Steinmo et al., 1992, p.12).

Throughout the 1980s, a new idea started to gain ground within the historical neo-institutional approach, namely, that the state should be seen as an autonomous actor capable of making choices and meeting political targets. This meant conceiving it as an organization that did not merely act as a reflection of or in response to the demands and interests of social groups, classes, or societies, as it was seen in research at the time of a sociocentric bias. Rather, the state was an institution and its degree of autonomy could itself be defined according to institutional indicators, which included the degree of centralization of authority, the financial means available, the existing bureaucratic profile, and even its relationships with the main social actors (Skocpol, 1985). These requirements, it was argued, were historically conditioned, and the degree of “insulation” of each state could only be indicated by examining them individually (Fernandes, 2002).
In the 1990s, in response to criticisms of state-centered interpretations, new research evolved towards a more policy-centered perspective. The idea was to balance the roles attributed to the state and society by assuming that the former, as it was part of society, could not operate with complete autonomy. Depending on the case in question, the state could be influenced more or less by society than society was influenced by it.

From the state-centered perspective on politics, “as politics creates policies, policies also remake politics” (Skocpol, 1995, p.58). This would take place because the implementation of policies would trigger positive or negative feedback that would transform the state's capacity, affecting the adoption of new courses of action as well as the identity, power distribution, and formation of the preferences of the groups of stakeholders involved in the subsequent political game. According to this line of thought, the success of a policy depends on the action of groups and alliances designed to ensure their perpetuation and expansion. As such, positive feedback would reinforce the adoption of future policies similar to the original one, while negative feedback would tend to weaken its reproduction (Skocpol, 1995). This perception is what guides the use of the concept of path in public policies, as we will see later.

The constitution of the sanitation issue in republican Brazil

When Brazil was proclaimed a republic, the victory of the conception of federalism in the constitutional charter of 1891 put states and municipalities in charge of managing the country’s public health and sanitation services. However, the complete delegation of sanitation services to local authorities proved unfeasible under the economic and political conditions of the municipalities at the time, which opened the way for state authorities to take over their control (Hochman, 1998, p.95-109).

The recurrent epidemics of yellow fever and other diseases in the first decades of the twentieth century in different parts of Brazil prompted huge swathes of the country’s political elite to call for federal government intervention in public health, especially in the states short of technical and financial resources (Hochman, 1998, p.133-136). From then on, the notion of purely individual and local responsibility for public health matters gave way to a collective conception of the problem. This drove the development of a public authority for public health in Brazil, and the territorial expansion of this authority became the crux of the discussions about sanitation reform at the time, exposing the roots of the conflict in the federation over state action in the fields of health and sanitation (Hochman, 1998, p.93-94).

With Brazil’s presidents, state governors, and sanitation service administrators sharing similar concerns about the need to fight disease in the country, it became possible to begin developing collaborative efforts to improve public health across the different spheres of government (Hochman, 1998, p.106-108). The discussions about the proposed sanitation measures revealed a clear polarization of views between those who called for state and municipal autonomy in serving regional agendas and those who advocated the administrative centralization of sanitation by the federal executive branch through the creation of a ministry of public health. The constitutional framework that underpinned the way the central power and state governments interacted was essentially at stake.
In 1919, in response to the severe epidemics that struck the country, the Brazilian president created a new federal entity under the existing Ministry for Justice and Internal Affairs: the National Department of Public Health. This department’s actions marked the beginning of a new stage in the constitution and expansion of federal authority over sanitation matters. Taking a pioneering stance, the new entity offered states the chance to set up voluntary agreements to fund federal sanitation and rural disease prevention measures in their respective territories. These partnerships offered the states willing to tackle their public health issues the benefits of the federal sanitation authority and a variety of resources; and the more the states transferred their powers to the federal level, the more resources they would receive.

With these agreements, the federal government made it easier for states to obtain the public health services they needed, overcoming the huge technical and financial hurdles most of them faced in fighting the epidemics and rural endemics in their regions. While this federal strategy benefitted the states through the introduction of new services, it also relieved them of many of the costs and responsibilities involved in implementing and administrating them. In exchange for these benefits, the federal government controlled the activities and financial resources derived from the contracts signed for this purpose, effectively transferring them to federal sanitation services. As a result, there was a rapid uptake by the states of the agreements offered by the Union and the penetration of federal public health activities into the states, even those resistant to federal government presence. By the mid-1920s, only two states had not signed such agreements with the Union.

Once the agreements had been signed and the technical and administrative structure for rural disease prevention services was in place, it was not hard for federal powers for combatting the countless public health problems that afflicted the nation to be widened. Between 1920 and 1924, the 17 states that had signed rural sanitation agreements had extended them to preventive measures for leprosy, syphilis, and other venereal diseases. This uptake of federal public health and sanitation services prompted a standardization of public health measures across the country, which boosted the capacity for coercive action by the central authority and expanded the space over which its power was exerted (Hochman, 1998, p.172 -177).

What the actors involved in this setup could not have foreseen was that the expanded government responsibilities for the provision of sanitation services would come to change the original configuration of the very forces that engendered this arrangement (Hochman, 1998, p.180-208). When the 1891 constitution was suspended in 1930 after a military coup, there was already room for the creation of the controversial Ministry of Education and Public Health, which took charge of regulating and executing public health and sanitation actions across the nation. Alongside this ministry, other entities were created to fight drought and introduce water and sewerage systems in towns and cities. In 1953, the ministry was granted autonomy to focus exclusively on public health.

Initially, the new ministry reformulated the structure under which the country’s sanitation services functioned, centralizing them even more under direct federal control. However, the 1934 constitution restated that municipalities were responsible for services of local interest, which included sanitation measures, which, once implemented, would be administrated by the local authorities that benefitted from them. The economic state of most of the country’s municipalities meant that they could not effectively see through such tasks.
The same challenges faced in the past were now compounded by new strains on infrastructure as industrial development progressed.

**The National Sanitation Plan: the beginning of a path for sanitation**

The political and administrative centralization introduced by the authoritarian regime in 1930 made feasible a period of major industrialization in Brazil, which the state geared towards the production of capital goods. In the following decades, Brazilian business groups joined forces with international capital, shifting Brazil’s industrial development towards the production of durable goods and the service sector. With this, the economy became increasingly dependent on foreign capital, which translated into technology imports (machines and equipment) by Brazilian companies and the remittance of the profits made by the foreign companies back to their countries of origin. This new organization of capital in Brazil meant that foreign influences on its domestic politics grew, especially in the context of the Cold War (Skidmore, 1988).

With the growth of industrialization and the service sector in the 1950s, Brazil’s major cities saw unprecedented urban development and considerable population growth. However, the investments needed for infrastructure to keep pace with this growth were not made. By the mid-1950s, almost 80% of Brazil’s municipalities still did not have a regular water supply (Costa, 1994, p.59). Many did not have the capacity to introduce such infrastructure or even to operate it once it was in place, which meant the respective state or federal authorities had to step in. By the 1960s, all three levels of government were involved in the provision of these services in a multitude of local and regional setups marked by widespread institutional fragmentation and muddled funding arrangements.

The services under state management supplied 37% of the population with water, although 54% of it was under municipal hegemony. There were a further 17 federal entities responsible for operating and managing water and sewerage systems in different municipalities, which, lacking the necessary technical and financial wherewithal, were unable to manage or maintain these basic services for the local population (Costa, 1998, p.59-60). In the face of an imminent sanitation crisis in Brazil’s major cities, access to running water and sewage services became a hot topic on the public agenda in the 1960s.

At this time, Brazil was going through a critical time internally, since the proposed structural reforms advocated by President João Goulart ran counter to the core interests of the foreign business groups involved in the country’s economy. These, in conjunction with conservative sectors of Brazilian society, opened the way for a new military coup, toppling Goulart in 1964 and sparking the beginning of a military dictatorship that would last for over two decades.

With the rise of military rule and the political repression associated with it, the Ministry of Health found itself stripped of its capacity to galvanize political backing for the priorities it wanted to set for the sector or for coordinating its own actions with public sanitation measures. The gradual adoption of a conception based on the individual nature of disease paved the way for healthcare to be given priority in public health, while sanitation was relegated to the building and housing sector, traditionally linked to civil construction. With
this dissociation, more autonomous ways of providing and managing sanitation services could be considered, based on their economic and financial sustainability. This process culminated in the creation of the National Sanitation Plan, which, as of 1971, became the main public policy for the sector.

Under the authoritarian government, public policies were designed to fit into the strategy to restrict decision-making to centralized communities of experts from the state’s civil service in a process known as bureaucratic insulation (Nunes, 2010). In this kind of decision-making model, the insulation of the highest strata of the public administration and the staff from agencies and companies within the state apparatus was a way of “assuring” the protection of the state’s core technical workers against political interference from the public or other intermediate organizations. Yet this technical elite, who were expected to exercise their public functions with neutrality, also had business interests, often sitting on the boards of large corporations. The association of these interests led to the formation of circles of bureaucratic and business power that orchestrated their own interests through the state. Through these setups, these groups effectively constituted a “parallel administration” that was quite free of the public scrutiny and democratic control to which previous governments had been subject (Dreyfuss, 1981).

The presence of civil servants with business interests in the state political and bureaucratic apparatus went a long way towards enabling the creation and development of an integrated state financial and industrial complex for industrial output and control. These state executives assured the multinationals and their business associates access to the policy- and decision-making channels of interest to them, influencing public opinion. They used private business rationales to address national socioeconomic problems, stressing the importance of scientific management, normative public administration, and the formalization and standardization of duties. By using planning as a state resource administrated by technocrats supposedly free of any class-related determinations or interests, this technical intelligentsia helped to mute the criticisms and pressures voiced and exerted by the subordinate classes (Dreyfuss, 1981).

The adoption of a business rationale for the country’s human and physical resources was one of the pillars of the post-1964 regime, and the National Sanitation Plan was the concrete expression of this in the sanitation sector. The experts behind it dreamt up the creation of 27 state companies with mixed public-private ownership, which presupposed the formal establishment of profit-oriented business enterprises. The idea of the plan was for the companies to be self-sufficient, using the revenues they earned to fund their activities.

Given the fact that not all the municipalities in Brazil were economically feasible in profit-making terms, the civil servants who devised the National Sanitation Plan formulated a funding structure based on a tariff mechanism called “crossed subsidies.” Using this mechanism, richer consumer groups would subsidize the expansion of services for poorer consumer groups by charging them different rates. This funding model was therefore linked to the assignment of municipal sanitation services to their respective states. To enable this, the Union linked access to federal resources for the sector to the assignment by local authorities of the right to exploit these services to state sanitation companies. Only those municipalities with any fiscal independence were able to resist the pressure from the central government. In a context in which the centralization of power by the 1964 authoritarian
regime had already undermined the local authorities' overall capacity to react, this measure had a disproportionate effect on the ones that were poorer.

Although the National Sanitation Plan encouraged economic self-sufficiency and administrative rationality, an analysis of the tariff policy at the time indicates that the state companies were never financially feasible (Costa, 1998, p.61). Centralized by and bound to federal executive regulations, the state companies were trapped between “social” rates (rather than minimum rates, as conceived by the crossed subsidy mechanism), held at extremely low levels by state authorities, and the repeated freezing of urban service rates as part of the federal government’s strategy to curb inflation (cited in Costa, 1998, p.62). The Union made up for this fiscal imbalance by providing loans and grants for these companies, enabling them to continue their activities. Even so, the National Sanitation Plan brought about a substantial improvement in service coverage in the country: between the 1970s and 1990s, the number of urban households with access to running water practically doubled (IBGE, s.d.).

With the regulation of services imposed by the National Sanitation Plan, the state companies took on the high investment and fixed costs of installing urban sanitation networks, recruiting and training workers for the sector, and operating and monitoring its activities. The effect of this was to produce increasing returns in the sector. Increasing returns are a form of positive feedback produced by the continued use of a technological option, which end up strengthening the whole path linked to it, making it extremely hard to effect any change in direction (Arthur, 1994). By introducing a new organizational arrangement for the sanitation sector, it is fair to say that the National Sanitation Plan also set it on a new path that linked it to sanitation policies.

The legacy of the National Sanitation Plan under democratic rule

One of the main targets of analysis by historical neo-institutionalists is path dependence: the idea that successive decisions taken by specific actors and accumulated over time leave almost irreversible legacies. This means that in most situations, once a particular institutional path has been embarked upon, the barriers created by certain arrangements hamper any efforts to revert to the original choice. This is based on the idea of increasing returns, whose roots lie in the field of economics and which is applied to the research of the economics of technology. Increasing returns constitute positive feedback for any technology that is adopted, in that its implementation has the power to generate positive reinforcement of its use, thereby ruling out competing alternatives and consolidating the option taken over time.

The factors that yield increasing returns in technology are: (1) the operation of a large setup: when fixed costs or investments are very high, actors tend to stick to their initial organizational or technological choice, closing off the chance of alternatives; (2) learning effects: when knowledge gained in the operation of complex systems is reinforced by continuous use; (3) coordination effects: when the specific benefits obtained from an activity are linked to the adoption of the same technological or organizational infrastructure network, new investments tend to connect with it; (4) adaptive expectations: when actors adapt their
choices, concentrating on the options with a greater chance of success, which in this case means what already exists or is already under way (Arthur, 1994).

The transposition of the concept of increasing returns to political analysis sheds some interesting new light on social processes. Pierson (2004, p.40) argues that there is enough reason to suppose that political processes, like economic ones, are often marked by the dynamic of increasing returns. For him, the development of new political institutions often demands high implementation, learning, and coordination costs. Meanwhile, established institutions mean less decision-making uncertainty and more stability, which tends to prolong their existence (p.26). These features operate like increasing returns, which means that policies that already exist in modern society tend to be very long-lasting. The broad arrangements of such policies shape the incentives and power resources of the social actors (Pierson, 2004).

According to Pierson, public policies are particularly impacted by two sources of reinforcement, which tend to consolidate existing paths. The first is the allocation of political authority to specific actors over time. When some actors are in a position to impose rules on others, the continued exercise of this power will reinforce the initial position of power, making it a key source of positive feedback for the path that created it. This in turn ramifies into a second source of reinforcement, because it affects the interpretation that social actors have of their own environment. As the development of new interpretations involves high initial and learning costs, it is harder to turn back from the path adopted. Understandings about social systems and the development of standards and/or patterns of cognitive appropriation are linked to cultural standards that are shared by the collective, which constitute the social actors’ world views. Once established, these interpretations tend to survive independently of the ideologies and orientations of political parties or groups (Pierson, 2004, p.38-39). This inheritance is known as a legacy.

The legacy of Brazil’s sanitation policy lies in the National Sanitation Plan. The arrangement that this plan created enabled state companies to take the institutional lead in the provision of water and sewerage services in Brazil. While exerting the functions of natural monopolies in big cities, they boasted a number of features that tended to perpetuate them. The state companies won great power to allocate resources, making them solely responsible for setting priorities and selecting technologies and expansion strategies. This was the beginning of an asymmetrical, conflictive power relationship between states and municipalities: the transfer of hierarchical management to states was inherently linked to the political submission of the municipal authorities. In technological terms, they operated large-scale services with high learning, coordination, and adaptation effects. In political terms, they counted on strong power to allocate resources in their respective states, consolidating the perception that such services were the responsibility of this level of government. This situation did not change even after the return to democracy and consequent extinction of the National Sanitation Plan in the 1980s.

With the end of the military dictatorship, the authoritarian institutional apparatus was dismantled, resulting in the formal termination of the National Sanitation Plan in 1991. The new constitution, passed in 1988, responded to two decades of authoritarian centralized political rule by reactivating and valuing the political and economic role of local authorities.
under the federal system of government (Avelar, Cintra, 2004). Municipal responsibility for providing urban services of local interest was reinstated. All of a sudden, the states, now accustomed to an authoritarian relationship with local authorities, found themselves in need of resetting their relationship with them, which now enjoyed unprecedented political and financial autonomy, assured formally by financial transfers received directly from central government.

In 1984, the local authorities already responsible for managing their own sanitation services clubbed together to form the National Association of Municipal Water and Sewerage Services, under which municipal interests in the sector were represented. The state groups reacted a year later, when the 25 state sanitation companies formed the Association of State Basic Sanitation Companies. The delay in the provision of private concessions for such services, which came over a decade later, in 1996, only confirms the strength of the state provision of these services in Brazil.

In the 1990s, many of the municipal concessions signed when the National Sanitation Plan was still in force were soon to expire. Unsatisfied with the services they were receiving, some local authorities decided to take them back, which ran counter to the interests of the state sanitation companies. The conflict over responsibility for the provision of services of local interest ended up in the Federal Supreme Court (constitutional court) and was debated by ministers for years. The resulting ruling was that state and municipal authorities must share the management of sanitation services in areas where they had common interests. However, the way these services were to be provided was a moot point.

The fact that the regulation of sanitation services was only resolved by the judiciary indicates how serious the dissent between the sector’s stakeholders was, as they demonstrated an incapacity, under democratic rule, to obtain a minimum consensus to approve a new regulatory framework in the legislative arena. It also exposed the scars inherited from the long period of authoritarian political centralization states had exerted over municipalities.

In the 1990s, the Washington Consensus (1989) made Brazil’s fulfilment of a neoliberal-inspired agenda a prerequisite for the government’s access to international funding. Basically, the Brazilian state had to cut down its involvement in the national economy so that it did not intervene in it, but simply regulated it, opening the way for private investments in a whole range of private industries. The main channel chosen to bring this about was the privatization of the state companies operating in economic activities.

In sanitation, state governors were encouraged by the federal government to sell their companies to adjust their states’ accounts with the Union. The privatization of these companies attracted the attention of foreign water companies keen to exploit the Brazilian water market. Despite the support of some governors, the proposal was blocked by the coordinated action of groups directly and indirectly involved in the sector that would be affected by the change in its governance (Sousa, Costa, 2011).

The cohesion of interest groups against the privatization of sanitation companies was coordinated around the defense of state governance of the sector. The main direct beneficiaries of this governance were the groups involved in the activities of the state sanitation companies and those from its production chain: state executive powers, government department chiefs, the companies’ top brass, and private suppliers and employees (Sousa, Costa, 2011).
With privatization, the whole web of interests that was already established would be shaken up and reorganized: the revenues from the state companies, which in many states was combined with other revenues in a single account, would cease to exist; governors would no longer be able to use nominations for top positions in these companies as political bargaining chips with potential allies; employees would be laid off and replaced by cheaper workers, as had already been seen in other privatized sectors in the country; and the supply chain would be restructured according to the terms of the new administration, affecting consolidated positions.

To make privatization feasible, the federal government undertook to transfer sanitation services definitively to state responsibility, a condition designed to make sure rich municipalities could not evade the change, thereby ensuring economic returns for the venture (Brasil, 8 mar. 1999, 20 fev. 2001). Furthermore, it proposed the subordination of the action of the service providers to the standards and planning of Agência Nacional de Águas (ANA), the national regulatory agency, which would coordinate the national sanitation policy, a function that had not been exercised by the Union since the end of the military regime (Brasil, 20 fev. 2001).

The proposal to transfer ownership to the states disgruntled the pro-municipal groups, because it would mean local authorities would completely lose their bargaining power over the services in their catchment areas. For the pro-state groups, while it was attractive, it sparked some mistrust because it was proposed by a government with a privatization agenda. But what the state stakeholders really rejected was the idea of again being subordinated to a federal entity (ANA) after two decades of being free agents, without regulation, inspection, or accountability of any kind whatsoever.

Initially united under the goal of vetoing privatization, these groups constituted the National Front for Environmental Sanitation (Frente Nacional pelo Saneamento Ambiental, FNSA), a bloc of associated interests that made concerted efforts to prevent the moves proposed by the federal government for the deregulation of the sector (Sousa, Costa, 2011). Under the leadership of municipal stakeholders, the bloc managed to prevent the privatization of sanitation. But it failed to alter the hegemony of state companies when it came to the physical operation of sanitation services and the institutional arrangement of the sector. In 2007, when the new sanitation law was passed, state companies were responsible for the provision of sanitation services in over 70% of the municipalities in Brazil (SNIS, 2007). Almost a decade later, this proportion has remained unchanged (SNIS, 2013).

**Conflict of interests and path dependence: new sanitation regulations**

When a new government took power in 2003 under Luiz Inácio Lula da Silva, it was on the back of outspoken criticism of privatization and the unconditional defense of the direct state provision of public services. The groups that had vetoed the privatization of sanitation services under the previous government constituted a strong base for the election of the new government. This alliance was reflected in the appointment of the most important leaders of FNSA to key posts in the sector. The expectation was that once in power, this group would foster the modernization of the sector and the approval of a new regulatory...
framework. With this in its sights, the federal government kick-started an intense process of institutional restructuring of the sector, which materialized in the creation of the Ministry of Cities (Brasil, 23 out. 2003).

The idea behind the Ministry of Cities was that it should integrate urban development policies. It was put in charge of proposing a new regulatory framework for sanitation, which was submitted to the Chamber of Deputies for approval. This bill envisaged some major innovations for the sector. These included new management instruments, subordination to regulatory entities, the establishment of councils for social control, and the creation of federal funds. However, the most controversial had to do with the transfer of ownership to municipalities, mechanisms for social control, the funding of universal coverage, and the subordination of service providers to federal guidelines (Brasil, 23 maio 2005).

The bill was amended 862 times before it became law. Most of the amendments aimed to guarantee the interests of state stakeholders (FNSA, 22 jun. 2005a, 2006a, 2006b). The transfer of services to municipal authorities attracted the lion’s share of the amendments. The other sensitive issues were the creation of the National Sanitation System, the creation of federal funds for the universal provision of sanitation services, and the creation of deliberative councils for the sector.

The National Sanitation System proposed that the actions and funding of service providers should be subordinated to standards and principles set forth by the federal government, linking them to a national sanitation policy run by the Union through the Ministry of Cities (Brasil, 23 maio 2005). With the creation of this system, the federal government was keen to do away with the almost complete monopoly of the sector enjoyed by state sanitation companies since the end of the military dictatorship in the 1980s.

The idea behind the federal funds was to democratize decision-making processes about how resources designed to improve service coverage should be allocated, which the practice of crossed subsidies did not allow to happen freely. Through these subsidies, service company revenues were unified and centralized in the coffers of the state companies, from which they were reallocated according to the priorities set by the managers of these very companies. This effectively excluded the other stakeholders interested in expanding coverage from the decision-making process, such as local authorities, consumers, and organized civil society. The adoption of federal funds instead of crossed subsidies would open decision-making processes to all stakeholders duly represented in the respective legislative arenas in which the funds’ allocation was decided upon. It would be a great innovation for the Brazilian sanitation sector, effectively putting an end to the monopoly of state companies and their management of the revenues from the services provided.

Finally, the bill provided for the constitution of councils to deliberate on the formulation, introduction, and inspection of the services (Brasil, 20 maio 2003, 2006). The idea behind giving such councils decision-making powers, rather than making them merely consultative, as is the case in other sectors, was to effectively enable social control of the sector, which had historically been run without any external inputs. The possibility of such a degree of outside influence on their activities bothered the state stakeholders.

FNSA (22 jun. 2005a, 2006a, 2006b) held out in favor of the federal government bill, supported by organized civil society and associations of mayors who were not happy to have
their ownership contested. In Congress, representatives of local authorities, organized civil society, and small private companies aligned themselves with FNSA. Meanwhile, large suppliers of inputs and services from the existing production chains held out in favor of the state groups. The position of the two main groups of stakeholders towards the most controversial institutional innovations proposed by the government for the sector is summarized below.

Table 1: Main points of contention between municipal and state stakeholders concerning the proposed sanitation sector regulations

<table>
<thead>
<tr>
<th>Items of Contention</th>
<th>State Agenda</th>
<th>Municipal Agenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ownership</td>
<td>state, in metropolitan areas</td>
<td>municipal</td>
</tr>
<tr>
<td>National Sanitation System</td>
<td>against</td>
<td>for</td>
</tr>
<tr>
<td>Funding of Universal Coverage</td>
<td>crossed subsidies</td>
<td>federal funds</td>
</tr>
<tr>
<td>Councils for Social Control</td>
<td>optional and consultative</td>
<td>mandatory and strengthened at every level of federal government</td>
</tr>
</tbody>
</table>

Source: Brasil (20 maio 2003, 2006)

The federal and state governments could not reach a consensus. The latter responded by submitting an alternative bill via the Senate designed to guarantee the state sanitation companies’ main demands (FNSA, 22 jun. 2005b; Brasil, 11 maio 2005). Approved unanimously by the upper house, the bill ran counter to the central points of the government’s proposal and dealt the municipal players a heavy blow (FNSA, 22 jun. 2005b). Added to which, the speed at which it passed through the Senate made the risk of defeat for the government imminent. This, added to electoral jitters in 2006, made the government call for the two bills to be combined into a single one to be debated in Congress (FNSA, 2006d).

It is curious how the precarious alliance that had until 2002 united the two main interest groups against privatization was completely extinguished under the new scenario, where state governance was no longer being contested by the federal executive branch. In other words, historical divergences, previously repressed in the name of the struggle against privatization, rekindled the conflict of powers constituted by the National Sanitation Plan in the 1970s. That is why building a consensus was the main challenge in getting the law passed. Satisfying the most critical demands made by the state stakeholders, the conciliation enabled a new sanitation law to be passed in 2007 (Brasil, 5 jan. 2007), much awaited by the sector’s actors. The resulting configuration favored the perpetuation of the state arrangement, as we can see.

We can draw a few important conclusions from Table 2. The transfer of the discussion about ownership to the Federal Supreme Court gave the municipal concession contracts with

Table 2: Proposals approved and vetoed in the 2007 sanitation law and their beneficiaries

<table>
<thead>
<tr>
<th>Original Government Proposal, supported by FNSA (PL n.5.296/2003)</th>
<th>Law Effectively Passed (Lei n.11.445/2007)</th>
<th>Main Beneficiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal Ownership</td>
<td>undecided, awaiting ruling from the Federal Supreme Court</td>
<td>pro-state groups</td>
</tr>
<tr>
<td>Creation of National Sanitation System</td>
<td>vetoed</td>
<td>pro-state groups</td>
</tr>
<tr>
<td>Financing Through Sector Funds</td>
<td>vetoed</td>
<td>pro-state groups</td>
</tr>
<tr>
<td>Councils for Social Control with Decision-Making Powers</td>
<td>vetoed</td>
<td>pro-state groups</td>
</tr>
</tbody>
</table>

Source: Brasil (23 maio 2005, 5 jan. 2007)
state companies a new lease of life, since any legal dispute would cost any local authority that wanted to rescind them more than those that kept them. The veto against the creation of the National Sanitation System was a key point for the pro-state groups, because its approval represented linking and subordinating the actions and resources of state service providers to federal decisions, which would limit the degree of autonomy the states and their companies had gained with the end of the National Sanitation Plan.

The introduction of federal funds to finance universal coverage was likewise vetoed by the pro-state groups, which alleged that it would make the regionalized provision of services unfeasible. In practice, however, it clearly implied the state companies’ losing their independence in the allocation of the sector’s resources, since decisions about service expansion would be transferred to the fund’s decision-making forums, on which a variety of representatives from society sat, especially local authority stakeholders. In view of this risk, crossed subsidies were kept in place and the introduction of the funds became optional, unlike the original government proposal (Brasil, 5 jan. 2007, art. 13).

Finally, the state groups also managed to reduce the scope for users and other groups with an interest in the services provided to participate and interfere in their provision, by waiving the legal requirement for councils to be maintained at all levels of government. Not only did they become optional, but they were only granted consultative powers, again running counter to the government’s original plans (Brasil, 5 jan. 2007, art. 47).

Despite all this, it is important to acknowledge that some major innovations were indeed approved, such as a more integrated view of sanitation services, new management and planning instruments, and the subordination of service providers to regulatory agencies, following a model that already existed in the country. However, when taken as a whole, there can be no doubt that the institutional structure introduced by the National Sanitation Plan has remained almost completely intact, consolidating the dominance of state companies in the provision of sanitation services in Brazil to the current day.

**Final considerations**

The basic tenet of this study is that public sanitation policies are strongly influenced by actors, interests, and institutions, which explains their poor performance in recent decades. Without intending to cover every aspect of the debate, this study has attempted to identify the main actors and critical junctures in the decision-making processes for this sector in Brazil. The use of path dependence has proved helpful for identifying the historical roots of the structure and the inertia of the recent political configuration of Brazil’s sanitation sector, which began with the imposition of the National Sanitation Plan in 1971. The institutional arrangement introduced by the National Sanitation Plan yielded positive political and economic returns that reinforced a path essentially marked by the dominance of state groups and their institutions in the sector.

The dismantling of the authoritarian regime in the 1980s paved the way for political decentralization, with municipal authorities gaining ground and the Union ceasing to have the role of executing policies on the local level, while strengthening their financing in its place. States were no longer politically subordinated to the Union, but they lost their old
sources of power when local authorities gained new autonomy. The extinction of the National Sanitation Plan in this new federal organization enabled the free action of state sanitation companies, which became a valuable bastion for state governors in a scenario in which state political powers were generally curtailed.

In the absence of a new regulatory framework for the sector, some uncertainty arose in decision-making arenas, which, according to specialists on the subject, went on to affect investments and contributed to the poor coverage seen in the period. In view of this concern, for over a decade the Union systematically proposed institutional innovations that could modernize and dynamize the sector. This study shows that state companies imposed a blanket veto against the agenda for innovation proposed by the Union, helping keep some key elements of the inherited institutional arrangement intact. The innovations approved were only done so on the condition that they did not jeopardize their essential dominance of the sector.

The approval of the proposed innovations analyzed in this text would have meant a qualitative rupture in the service provision model that had prevailed since the 1970s, historically rooted in state authoritarianism towards local authorities and any attempt by civil society to exert external control. These innovations would have opened up space for the other stakeholders to be active players, challenging the hegemonic role of state companies in setting the sector's agenda. Meanwhile, the proposal that state companies be subordinated to standards and guidelines issued by entities like ANA or even the National Sanitation System would have led to an undesirable expansion of federal control over this sectoral policy, which had been exercised freely by the states after the end of the National Sanitation Plan in the 1980s.

Unfortunately, the new regulatory framework did not effectively rise to the challenge of providing universal access to sanitation services. The same applies to the maintenance of the already existing institutional arrangement, which has only served to assure the hegemony of state groups with direct interests in it. The slow pace of progress in the coverage of sanitation services can no longer be justified in the face of the considerable rise in the provision of funds to expand sanitation services from federal programs and the sector regulations already available for investors. In future studies, it would be worthwhile reflecting on whether the existing federal programs are prepared to address the challenges faced by the path of the sanitation sector.

NOTES
1 For an analysis of the loss in power of municipal authorities in the Old Republic, see Leal (2012).

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