Breaking Path Dependence: Puerto Rico’s biggest hurdle in developing a strong, indigenous entrepreneurial and capitalist class

By Olivier Perrinjaquet

Abstract

Why is Puerto Rico’s local entrepreneurial and capitalist class underdeveloped and not as dynamic as in other jurisdictions? Why isn’t Puerto Rico equipped with a locally owned, highly internationalized business sector which exports its products and services and invests in other jurisdictions? Why are there few Puerto Rican multinational corporations? Why is Puerto Rico’s economy, particularly its export-oriented industries, so dependent on nonlocal firms? Why does the entrepreneurial spirit in the Island seem atrophied? The path dependence framework, which has been gaining popularity in the social sciences and other fields of study, can shed insightful light on these very important questions for Puerto Rico and its development. As James Dietz elucidates in his seminal book Puerto Rico: Negotiating Development and Change (2003), Puerto Rico’s path of industrialization and development differed substantially from the trajectory followed by the more successful East Asian economies, ultimately leading it to suboptimal outcomes. It will be argued that due to the critical juncture of Operation Bootstrap, the Island’s industrialization strategy of the 1940’s and 1950’s which was highly dependent on nonlocal sources of capital, knowledge and innovation, Puerto Rico started down a path dependent process which has proven quite difficult to alter or break from. It is also posited that due to economic policy decisions made more than half a century ago, Puerto Rico is seemingly locked-in a development path highly dependent on exogenous variables. Finally, this article serves as an introductory presentation of the path dependence framework which has been increasingly gaining adherents across a number of academic disciplines and can be used to better understand many economic, technological and political processes.

Continued on page 2
Path dependence thinking has had a great reception in the social sciences and other fields as an explanatory approach that emphasizes the importance of temporality, sequencing and initial choices in explaining why altering the path taken by certain economic, social, and political processes is difficult or even impossible, even though there are compelling reasons to do so (Beyer, 2010). There are a number of definitions in the extant path-dependence literature which elucidate succinctly and intelligibly the essence of the path dependence framework. Margaret Levi (1997) provides a definition of path dependence that is frequently cited by scholars:

Path dependence has to mean, if it is to mean anything, that once a country or region has started down a track, the costs of reversal are very high. There will be other choice points, but the entrenchments of certain institutional arrangements obstruct an easy reversal of the initial choice.

This definition of path dependence, as will be subsequently elaborated upon, concisely articulates Puerto Rico’s main dilemma. It started down a path of development driven largely by low taxes and dominated by non-local inputs, and the development and implementation of an alternate path of development, given the entrenchments of certain institutional arrangements, has proven incredibly difficult due to the substantial costs and myriad disruptions it would entail. Paul Pierson (2000), in his seminal article titled “Increasing Returns, Path Dependence, and the Study of Politics”, points to the main claims path dependence aims to support: “specific patterns of timing and sequencing matter; starting with similar conditions, a wide range of social outcomes may be possible; large consequences may result from relatively ‘small’ or contingent events; particular courses of action, once introduced, can be virtually impossible to reverse; and consequently, political development is often punctuated by critical moments or junctures that shape the basic contours of social life.” Several of these claims can be clearly detected in Puerto Rico’s development path. The timing and sequencing of Puerto Rico’s industrialization, which differed substantially from the timing and sequencing of the industrialization path taken by the more successful East Asian economies (Dietz, 2003), as will be further explained, is fundamental in understanding the underdeveloped condition of Puerto Rico’s local entrepreneurial and capitalistic class. As aforementioned, Puerto Rico’s economic strategy highly dependent on exogenous factors, can be incredibly difficult to change. Finally, there have been a number of critical junctures throughout Puerto Rico’s history that have set it in a certain path. Opportunities that have arisen to change its path dependent development process have not been seized.

**Path Dependence Defined**

A concept that is intimately related to path dependence is increasing returns. It helps to explain why once a course or path is taken, it is increasingly difficult to change. In the process of increasing returns, which can be described as a non-linear stochastic model, once a certain step is taken in a certain direction which is characterized by positive feedback and self-reinforcing mechanisms, the probability of keeping taking steps in that direction increase through time (Pierson, 2000). The sunk costs and disruptions that would need to be incurred in to change the direction taken become increasingly large due to the relative benefits that arise from sticking with the same path. The model is non-linear because through time the evolution is cumulative, and stochastic because early events might arise to due random variables which do not necessarily result from rational, utility maximizing decision making driven by market forces.

A case of path dependence commonly cited by scholars is the history of the adoption of the QWERTY keyboard arrangement and its triumph over the more efficient Dvorak Simplified Keyboard (DSV), characterized by early-mover advantage, path dependence and increasing returns. Paul David’s seminal article (1985) titled “Clio and the Economics of QWERTY” provides a short but complete historical account of the advent and subsequent ubiquitousness of the QWERTY keyboard. “Technical interrelatedness, economies of scale, and quasi-irreversibility of investment” are at the heart of QWERTY’s ascendancy and ultimate dominance vis-à-vis other keyboard arrangements (David, 1985). Technical relatedness refers to compatibility between the hardware (i.e keyboard) and the software (i.e. touch typing custom and practice), economies of scale refers to the decrease in costs from the mass standardization and production from producing only one type of keyboard layout, and quasi-irreversibility of investment, related to sunk costs, refers to the notion that once a large amount of resources have been invested, changing the course would result in hefty or even prohibitive losses.

Brian Arthur, the economist credited with being one of the main exponents of increasing returns, (Pierson, 2000), used a simple case of competing technologies to explain how increasing returns solidify the competitive position of a given technology that benefits from first mover advantages, even if the ultimate winner does not provide the most efficient technological solution. It is due to increasing returns that the market continues to use the less efficient technological option rather than utilize the more efficient one (Arthur, 1989). Arthur posited (1994) that increasing returns are produced by four characteristics of technology and the social context in which it is embedded in: (1) Large set-up or fixed costs, (2) learning effects, (3) coordination effects and (4) adaptive expectations. These traits can also be found in myriad social phenomena (Pierson, 2000).
Critical Junctures

Self-reinforcing path dependent processes generally start from critical junctures, which may be defined as historical moments when considerable changes in the institutional make-up take place that lead to a new path or trajectory which is difficult to change (Capoccia and Kelemen, 2007, Collier and Collier, 1991).

Collier & Collier (1991) define a critical juncture “as a period of significant change, which typically occurs in distinct ways in different countries (or in other units of analysis) and which is hypothesized to produce distinct legacies.” The critical juncture framework posited by Collier and Collier (1991) is comprised of the following building blocks: antecedent conditions, cleavage or crisis, critical juncture and legacy (see Figure 1 below). When analyzing Puerto Rico’s path dependent process, these elements of the critical juncture framework will be further defined and identified.

First-, second- and third degree path dependence

There are three types of path dependence: first-degree, second-degree and third-degree path dependence. First-degree path dependence refers to a course that has been taken after an initial choice but leads to an optimal outcome, although there might be other optimal outcomes of an alternate (Liebowitz and Margolis, 2000). No error characterized this type of path dependence. Second-degree path dependence arises when an initial decision is taken thinking it is the most efficient one but through time it is realized that alternate initial conditions would have resulted in a more efficient outcome. Due to incomplete or imperfect information, decision makers could not have known that an alternative route would have been better down the road. Finally, in the case of third-degree path dependence, which does involve error and challenges fundamental economic assumptions, decision makers make an initial decision knowing that there are more efficient ones that can be taken which will achieve more desirable results (Liebowitz and Margolis, 2000).

Remediable and Nonremediable Path Dependence

Once a social, political or economic path-dependent process which leads to suboptimal outcomes begins and is entrenched to a certain degree, is it possible to follow a different course which would lead to more optimal outcomes? Liebowitz and Margolis (1995), following Williamson’s conceptualization of remediability (1993), differentiated between path dependence that is remediable and nonremediable. Nonremediable path dependence, as the name suggests, is a path for which there are no feasible remedies (Liebowitz and Margolis, 1995). Liebowitz and Margolis (1995) consider nonremediable path dependence as less important than remediable path dependence because if there are no feasible solutions to improving inefficient or suboptimal outcomes, policymakers would have their hands tied.

Frequently Cited Applications of Path Dependence

An area of study that has had great success in using the path dependence framework and increasing returns is economic geography (Krugman, 1991). The formation of economic agglomerations or clusters, popularized by the prominent Harvard business professor Michael Porter (1990), have been quite prominent across the world, ranging from Silicon Valley in the state of California which agglomerates high-tech and start-up companies to the financial services hub in Hong Kong. Spillover effects, positive externalities, network advantages and the causal mechanism of increasing returns largely explain why firms come together in a...
specific geographic location. In the specific case of Puerto Rico, the promotion of economic clusters has been a policy that has had limited success due to the overreliance on nonlocal inputs (Bosworth et al., 2006). Douglass North's use of increasing returns in the context of institutions and their evolution has helped to explain why there is significant disparity between the economic performances of countries throughout the world (Pierson, 2000). Due to the "stickiness", or resistance to change, of institutional arrangements, less developed economies are unable to radically change the course they have taken and adopt the institutional matrix and development path followed by more developed economies (North, 1990). Acemoglu and Robinson (2012) stress the importance of establishing inclusive, rather than extractive, political and economic institutions to effectively turn poverty into prosperity.

Puerto Rico's Political and Economic Legacy

Puerto Rico's Political and Economic Relationship with the United States

A general understanding of the history of the political relationship between Puerto Rico and the United States is indispensable for contextualizing the development path Puerto Rico has taken and the constraints and opportunities that are born from this relationship. A brief account of this relationship dating back to the end of the 19th century is therefore presented.

Puerto Rico became a non-incorporated territory of the United States in 1898 after close to four centuries of Spanish colonial control, following the signing of the Treaty of Paris, which ended the Spanish-American War (Trías Monge, 1999). The Foraker Act of 1900, after two years of U.S. military control, transitioned the Island to a civilian form of government characterized by broad control by U.S. interests, economic, militarily and political (Dietz, 1986). The Jones-Shafroth Act of 1917, commonly known as the Jones Act, bestowed U.S. citizenship on Puerto Ricans and created a new government structure which emulated the U.S. republican form of government with three branches, i.e., executive, legislative and judicial (Trías Monge, 1999). The governors of Puerto Rico were appointed by the U.S. president until 1948, when Luis Muñoz Marín became the first elected governor of Puerto Rico. After a local referendum and approval of the U.S. Congress, Puerto Rico enacted its Constitution in 1952, establishing the Commonwealth of Puerto Rico (Estado Libre Asociado by its Spanish name) (Dietz, 1986). While Puerto Rico did obtain a higher degree of autonomy with respect to local affairs, it is still being disputed where the full sovereignty of Puerto Rico truly lies. Puerto Rico's political status, which many consider colonial in nature, has remained unchanged.

Given Puerto Rico's relationship with the U.S. as an unincorporated territory subject to the Territorial Clause of the U.S. constitution, it "shares key U.S. institutions; in particular, the region operates under U.S. judicial, monetary, and tariff systems" (Bosworth, et al., 2006). In other words, Puerto Rico cannot establish trade deals with other countries unilaterally and it cannot levy tariffs. Furthermore, people, capital, goods and services can move freely between Puerto Rico and the U.S. (Trías Monge, 1999). Finally, Puerto Rico is subject to most federal statutes and regulations which govern the 50 states of the union.

Puerto Rico's Path of Economic Development

A very brief overview of Puerto Rico's post-World War II development will be presented for the benefit of those readers unfamiliar with the Island's economic history. The books published by James Dietz (1987, 2003) on Puerto Rico and its economic history and institutional development are used extensively. It should be noted that Dietz's book published in 2003 titled Puerto Rico: Negotiating Development and Change is replete with indirect and direct allusions to path dependence.

Puerto Rico's economy during the first half of the 20th century was primarily agrarian, producing crops such as tobacco, sugar cane and coffee, largely controlled by U.S. corporations (Dietz, 1986). The advent of American imperial domination in Puerto Rico brought little advancement to the residents of the island during the first several decades of the century. Although U.S. capital and business benefited greatly from their operations in Puerto Rico and during most of the first half of the 20th century, the local people were mostly kept in dire poverty. The dominance of U.S. capital interests was overwhelming, as Dietz (1986) notes, "More than a quarter of Puerto Rico's total wealth, and substantially more of its productive wealth, was owned by foreigners, primarily U.S. businessmen." It would not be until the late 1940s and beyond that the standard of living and incomes of most residents of the Island would start to improve dramatically (Dietz, 1986).

During the 1930's Puerto Rico benefitted from investments of the New Deal propelled by U.S. President Roosevelt (Dietz, 1986). Three key figures who were pushing for the New Deal plan in Puerto Rico were Rexford Guy Tugwell, an American economist appointed to be the governor of Puerto Rico between 1941 and 1946, Luis Muñoz Marín, founder of the Popular Democratic Party and first elected governor of Puerto Rico, and Carlos Chardon, well-known educator and scientist who largely penned the reconstruction plan. As Dietz (1986) puts forth, "The plan for economic recovery they envisaged was one that would create small-scale capitalists who would be able to compete on the world market and who would exercise local control of capital, production, and economic decision-making." These important actors in Puerto Rico's history clearly understood the importance of local, endogenous growth. Furthermore, they believed that "only through such a development strategy could a national base for development be built that could break out of the cycle of colonial underdevelopment and perhaps out of colonialism itself" (Dietz, 1986). However, as history has shown, the path taken by Puerto Rico would be diametrically opposite from what these influential political figures had first envisioned. The New Deal plan certainly helped alleviate poverty-related social issues in the Island but did little to redirect or transform its economic development path and structure (Dietz, 1986).

Luis Muñoz Marín, witnessing glaring economic and social injustices in Puerto Rican society, established the Popular Democratic Party, which would quickly gain popular support of the people. Although the party's focus at first was social justice, rapid industrialization and economic growth became more pressing objectives. Early efforts of industrialization were not very successful. Muñoz Marín and his
team realized that to attract a large number of firms to Puerto Rico, the incentives provided needed to be “irresistible” (Dietz, 1986). Since individuals and corporations didn’t need to pay federal income tax, pursuant to the Jones Act, the Puerto Rico government decided to exploit this clause. Moreover, Section 931 of the Internal Revenue Code of the United States allowed subsidiaries of U.S. corporations to establish themselves in the territories of the U.S. without paying federal taxes on the income derived from the Puerto Rico operations, unless the money earned was repatriated to the U.S. (Dietz, 1986). To make the deal more enticing for U.S. firms, local taxes would not be levied eligible corporations after the enactment of the Industrial Incentives Act of 1947. The Puerto Rico Industrial Development Company (PRIDCO), created in the early 1940’s to promote Puerto Rico as an industrial paradise, would ultimately be successful attracting manufacturing firms to Puerto Rico. There are two differentiable stages in PRIDCO’s strategy. The first stage, dubbed by some Operation Bootstrap’s “sweatshop” phase, focused primarily in attracting labor-intensive industries (e.g. clothing and textiles, food processing). Since wages under this first stage were low, PRIDCO decided to attract capital-intensive firms that can generally provide higher wages, among other reasons (Dietz, 1986). The benefits Puerto Rico obtained from this strategy were limited because these nonlocal firms, “made no attempt to forge linkages within the island economy, nor were they motivated to do so by the government or its incentive package” (Dietz, 1986).

Section 936 of the U.S. Internal Revenue Code, which substituted Section 931, would usher in a new era for Puerto Rico’s economic development (Bosworth et al., 2006). It provided greater benefits to U.S. firms operating in Puerto Rico since they would be able to repatriate profits earned without paying federal income tax. Many U.S. firms did relocate to Puerto Rico, attracted mostly by the allure of a small tax burden and the possibility of exploiting tax motivated transfer pricing (Grubert and Slemrod, 1994). Local linkages formed from the establishment of these U.S. firms on Puerto Rican soil were also very limited (Dietz, 2003). Although Section 936 was ultimately completely eliminated in 2006 after a 10-year phase-out, many firms that were so called “936 corporations” were able to be incorporated as controlled foreign corporations (CFCs) and continue to benefit from low taxes, income shifting and hefty profits (Bosworth et al., 2006). After the full repeal of Section 936, Puerto Rico has been largely unable to develop and execute an economic strategy that raises its level of development and converges with U.S. incomes and standards of living.

Puerto Rico’s Economic History through a Path Dependence Lens

As Pierson (2000) notes, one of the claims path dependence is said to support is that “specific patterns of timing and sequence matter.” James Dietz, using a framework developed by Gustav Ranis (1981), compares the sequencing of Puerto Rico’s industrialization process with that of East Asia Economies, including South Korea and Taiwan, and Latin American economies. Figure 2 provides a comparison of these economies in terms of the strategies followed during the different stages. There are substantial differences between the sequencing of industrialization of these economies. While there was a focus, particularly in East Asian economies, of nurturing local firms and assuring local linkages with nonlocal firms, Puerto Rico’s model largely left out this crucial element. According to Dietz (2003), “The Puerto Rican model, as opposed to the superior East Asian path of structural transformation, created a subordinate form of adverse path dependence that has proven to be a barrier to continued progress beyond the early gains in living standards achieved in the 1960s and 1970s.”

Figure 2

Sequencing of Industrialization and Modernization of Puerto Rico vis-à-vis East Asian and Latin American Economies (Dietz, 2003)

<table>
<thead>
<tr>
<th></th>
<th>Puerto Rico</th>
<th>East Asian Economies</th>
<th>Latin America Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth Stage</td>
<td>New Development Strategy?</td>
<td>High-finance, high-technology</td>
<td>?</td>
</tr>
</tbody>
</table>

Source: Dietz, 2003

Continued on page 6
Path dependence processes begin with critical junctures that are preceded by antecedent conditions and a cleavage or crisis, as described by Collier and Collier (1999). From the historical accounts reviewed, it is clear that Operation Bootstrap, Puerto Rico’s industrialization strategy that focused in attracting nonlocal firms by using tax and other economic incentive, is a critical juncture (Weiskoff, 1985; Dietz, 1986, Dietz, 2003; ECLAC, 2004; Bosworth et al., 2006). From this point forward, Puerto Rico chose a path of development highly dependent on nonlocal inputs (i.e. knowledge, capital, expertise, entrepreneurship) to generate economic growth for the benefit of its people. Policymakers in Puerto Rico could have taken a different route, but opted for a tax-motivated, export-oriented industrialization process highly dependent on exogenous factors (Dietz, 2003). According to Dietz (2003) “For the first time under U.S. rule, Puerto Ricans had an opportunity to increase their degree of autonomous control at the highest economic and political levels...the [Popular Democratic Party] PPD program laid the foundation for increased dominance by U.S. capital from the 1950s to the present.”

What preceded this critical juncture was a jurisdiction subjected to poverty and a number of economic and social problems (Dietz, 1986). Prior to Operation Bootstrap the government attempted to develop state-owned companies to create employment and wealth for its people but ultimately proved to be unsuccessful. Luis Muñoz Marín, and Teodoro Moscoso, one of the key architects of Operation Bootstrap, believed that only through the attraction of U.S. capital would Puerto Rico rise from its unsatisfactory level of development and a more local approach of development through the nurturing and promotion of a local entrepreneurial and capitalist class would not yield the desired results.

The industrialization strategy espoused did obtain impressive results and unleashed an increasing returns process (Dietz, 1986, 2003). The amount of firms and jobs created was quite substantial and during the 1950s and 1960s Puerto Rico benefited from high rates of real economic growth, increasing dramatically the level of employment in the Island. Puerto Rico was being heralded across the world as an “economic miracle”, providing a model to be followed by other underdeveloped economies. Given this positive feedback process, as Pierson (2000) posits, the probability of further steps along the same path increases with each move down that path. This is because the relative benefits of the current activity compared with other possible options increase over time.” Given the early success of the model, there existed little incentive to change the course taken. Furthermore, certain institutional arrangements, both in the public and private sectors, were becoming entrenched, making a different route of development increasingly difficult and costly. The problem resides in the fact that by 1970s, Puerto Rico would start witnessing the increased dominance by U.S. capital from the 1950s to the present.

Critical Juncture: Operation Bootstrap

As aforementioned, there are different ways of classifying path dependence processes: first-, second- and third degree path dependence as well remediable or nonremediable path dependence. Although Dietz provides an excellent account of Puerto Rico’s industrialization process and argues quite convincingly that it followed a path dependent process, he does not explicitly distinguish which type of path dependence is present in Puerto Rico’s case.

From the historical accounts reviewed it seems that the main architects of Operation Bootstrap were quite aware of a different route Puerto Rico could have taken, one that is driven more by local factors rather than external ones. It is also quite clear that the path followed has led to a less than optimal outcome. In other words, Puerto Rico’s path dependence meets the criteria to be considered third-degree path dependence. Intertemporal effects propagated error, and the error was avoidable (Liebowitz and Margolis, 1995). Moreover, it is a remediable path dependent process since “known feasible and preferable alternatives exist” (Liebowitz and Margolis, 1995). Policymakers, prior to the adoption of Operation Bootstrap, were aware of other development paths that could have been followed (Dietz, 1986, 2003). Still today there are calls to follow a more endogenous growth model and reduce the dependence on nonlocal inputs, but attempts to address this issue have had negligible impact. U.S firms continue to dominate the economic landscape of Puerto Rico, particularly those industries that are export oriented. According to Dietz, “only about 3 percent of total Puerto Rican exports originate from local firms (Bosworth et al, 2006).” Dietz continues “locally owned Puerto Rican firms are less likely than U.S. firms to export (30 and 86 percent, respectively), less knowledgeable about exporting and less willing to pay for information about exporting” (Bosworth, et al, 2006). The entrepreneurial landscape of Puerto Rico does not fare well when compared to other jurisdictions. According to the most recent Global Entrepreneurship Monitor Report on Puerto Rico, only 25% of those surveyed perceived good opportunities to establish a firm in Puerto Rico, compared to an average of 49% in Latin America and the Caribbean and 39% in innovation-driven economies (Aponte et al, 2015).

Classification of Puerto Rico’s Path Dependence Process
There is ample evidence that Puerto Rico’s industrialization strategy of the late 1940’s and 1950’s, dubbed Operation Bootstrap, led it down a path dependent process that is difficult to change, although there exists a lot of proof of the inefficiencies and suboptimal outcomes it has resulted in. Dietz (2003), referring to Operation Bootstrap, stated the following:

“this externally oriented strategy created a particular institutional, social, and economic history underlying the economic model, one that has engendered large-scale migration, high unemployment, idleness, and crime, among other tangible and intangible costs, which have imposed burdens on large numbers of individuals and families, costs that need to be compared with the measurable benefits in income growth attained from pursuing the Operation Bootstrap strategy.”

Clearly the path dependence process has yielded unsatisfactory outcomes in the long run, but due to the entrenchment of social, political, and economic institutions and the positive results obtained shortly following the implementation of Operation Bootstrap, it has becoming very difficult to change the course taken.

In a future iteration of this paper, it would be valuable to take stock of all the policy tools Puerto Rico has at its disposition under the current political arrangement with the U.S. to promote a more robust, local, entrepreneurial and capitalist class. Given its current territorial status, it does not have key policy tools other sovereign nations do have at their disposition. If Puerto Rico’s relationship with the United States were to change (i.e. statehood, independence, free associated state), it would create new possibilities for Puerto Rico in terms of policy tools and institutional context. Given the fact that Puerto Rico’s economy has been showing signs of weakness since the 1970s and is arguably, currently experiencing the deepest and most prolonged economic and fiscal crisis in its history, it is urgent for all stakeholders to objectively and non-ideologically look at Puerto Rico’s historical policy blunders and relentlessly seek to “get the institutions right.”
References


