

THE ART OF PUBLIC POLICY STATISTICIANS: THE PUERTO RICO PENSION REFORM REPORT

Luis A. Avilés

ABSTRACT

This article makes a contribution to the scant dialogue between the discipline of rhetoric and the discipline of statistics, in the context of policy analysis in Puerto Rico. Through the analysis of a government of Puerto Rico document, *The Numbers Speak for Themselves: We Must Reform Our Retirement Systems Now*, this article identifies a statistical rhetoric that: (1) reduces the assessment of the multiple objectives of a public policy to a few numbers (metonymy); (2) reiterates objectivity, through the assertion that “numbers speak for themselves” (proso-popoeia); (3) does not acknowledge subjective methodological choices that exaggerate the effect under evaluation; and, (4) appeals to emotions through a forecast of a statistically designed impending calamity. The Pension Reform Report responds to a political economy of economic and fiscal crisis that promotes austerity measures. The public policy statisticians who drafted the Puerto Rico Pension Report were skillful in the art of producing a statistical rhetoric that appeals to a lay general public, presenting themselves as disinterested scientists that interpreted the data. Nevertheless, a rhetorical analysis can identify the shortcomings, biases, and the misleading strategies of the report, that build quantitative arguments to justify a pension reform policy.

Keywords: pension reform, rhetoric of statistics, realist rhetoric, impending calamity, political economy

RESUMEN

Este artículo contribuye al escaso diálogo que existe entre la disciplina de la retórica y la disciplina de la estadística, en el contexto del análisis de política pública en Puerto Rico. Este artículo analiza el documento, *Los números hablan por sí solos: Hay que reformar nuestros sistemas de retiro*, e identifica los elementos de su retórica estadística que: (1) reduce la evaluación de los múltiples objetivos de una política pública a una serie de números (metonimia); (2) reitera la objetividad con “los números hablan por sí mismos” (prosopopeya); (3) no reconoce las decisiones metodológicas subjetivas que exageran el efecto bajo evaluación; y, (4) apela a las emociones con pronósticos de desastres inminentes, estadísticamente diseñados. Dicho informe responde a una particular economía política de crisis económica y

fiscal que promueve medidas de austeridad. Los estadísticos analistas de política pública que redactaron dicho informe fueron muy hábiles en el arte de producir una retórica estadística que apela a una audiencia general no especializada, representándose a sí mismos como científicos neutrales que simplemente interpretan los datos. No obstante, el análisis retórico detecta las deficiencias, los sesgos y las estrategias de confusión o exageración del informe, el cual se fundamenta en argumentos cuantitativos para justificar reformar los sistemas de pensiones.

Palabras clave: reforma de pensiones, retórica estadística, retórica realista, peligro inminente, economía política

RÉSUMÉ

Cet article fait partie des rares échanges menés entre les disciplines de la rhétorique et des statistiques pour analyser la politique publique de Porto Rico. Il prend pour objet d'étude le documentaire *Los números hablan por sí solos: Hay que reformar nuestros sistemas de retiro*, et identifie les éléments de rhétorique statistique qui : (1) réduisent l'évaluation des divers objectifs d'une politique publique à une séquence numérique (métonymie) ; (2) réitèrent l'objectivité avec « des chiffres qui parlent d'eux-mêmes » (prosopopée) ; (3) ne prennent pas en compte les décisions suivant une méthodologie subjective exagérant les résultats de l'évaluation menée ; et, enfin, (4) en appellent aux émotions comme pronostics de catastrophes imminentes envisagées de manière statistique. Ce rapport répond à une économie politique particulière, celle d'une crise économique et fiscale favorisant les mesures d'austérité. Les statistiques analysées à partir de la politique publique ont permis de produire une rhétorique statistique habile s'adressant à un public général et non spécialisé, mais se représentant lui-même comme étant objectif et interprétant les données recueillies. Toutefois, cette analyse rhétorique permet de détecter les défauts, biais et autres stratégies de confusion ou d'exagération du rapport, lequel repose sur des arguments quantitatifs afin de justifier la réforme des systèmes de retraite.

Mots-clés : réforme des retraites, rhétorique statistique, rhétorique réaliste, danger imminent, économie politique

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The 1954 book *How to Lie with Statistics*, written by Darrell Huff and illustrated by Irving Geis, which is the world most famous statistics book (Steele 2005), owes its success to its rhetorical critique and advice. While the title suggests that the book is a perverse manual to train racketeers in statistical techniques, it is actually a lay book on how people argue with data. Yet, most statisticians are not trained to systematically think about and be self-critical of quantitative arguments. The contentious relation of statistics and rhetoric has deep historical roots. Proponents of the emerging science of statistics in the first half of the nineteenth century in England thought that the spirit of their age had “an evident tendency to confront the figures of speech with the figures of arithmetic” (Poovey 1998:312). This marks a sharp contrast with economics, a discipline in which some of its key figures, Adam Smith, David Ricardo, and others, were professors of rhetoric, wrote rhetoric treaties, or were skillful parliamentarians (Aune 2002).

The lack of self-criticism about how to argue with numbers is represented by an intriguing metaphor in the essay *Rhetoric within the Citadel: Statistics* (McCloskey 1987). A citadel, the most protected area of a walled city, surrounded by bastions designed to resist the strongest attacks of foreign forces, becomes a concrete and visual example of the discipline of statistics. Since statisticians are trained to feel themselves totally protected from skeptics and external enemies, they are not aware that within their citadel inhabits what they consider to be their nemesis, rhetoric. The essay was not short of stimulating statements that were anathemas for those statisticians who defend the epistemology of positivism. Its author, economic professor Deidre McCloskey, explicitly asserted that statistics is essentially rhetorical; that many statistical fallacies revolved around rhetorical matters; that statistical techniques, not given by nature, were the result of conversations among statisticians; and, that applied sciences resorted to statistics because they consider it an effective machine of persuasion. McCloskey advocated for a conversation between the most ancient of the disciplines of the humanities, rhetoric, and one of the most modern methodologies of science, statistics.

This article aims to make a contribution to the scant dialogue between the discipline of rhetoric and the practice of statistics, in the context of policy analysis in Puerto Rico. Along with Majone (1989), I contend that the practice of policy analysis should not be reduced to the problem solving approaches of operations research and decision analysis; it should be understood as the production and analysis of evidence and arguments for public deliberation. Therefore, a dialogue of rhetoric and statistics becomes a useful foundation for the elaboration and critique of arguments that rely on quantitative information and, following Eagleton (1981), for the analysis of their material effects in particular

social conjunctures.

This article analyzes a government of Puerto Rico report *The Numbers Speak for Themselves: We Must Reform Our Retirement Systems Now* (GDB 2013:1; from now on, the Pension Reform Report) to identify elements of a statistical rhetoric that reveal what its authors thought to be appropriate evidence and persuasive arguments for public policy debate and deliberation. To assess the material effects of this statistical rhetoric, I will contextualize it within a political economy of dwindling fiscal resources, a growing national debt, and imperious reports of credit rating agencies.

As it is common among the disciplines of the humanities, rhetoric has not developed a specific set of methodological rules and procedures to guide research activities. Similar to philosophical inquiries that take advantage of the 2,500 year tradition of the discipline, rhetorical analysis builds on the centuries old history of rhetorical criticism to explain the diversity of techniques used in one single text or a groups of texts, related by author, audience or subject, to build effective arguments within a particular historical and social context (Fahnestock 1999). My analysis of a single document, the Pension Reform Report, does not aim to make either empirical or theoretical generalizations (Tsang 2014); it is more attuned to an idiographic investigation, as it is referred to in the social sciences (Gulbenkian Commission 1996).

The Pension Reform Report, freely available over the internet in English and Spanish, is an exemplary text of statistical rhetoric since it builds the case for pension reform—a matter of public policy decision—as the unavoidable consequence of objective statistical analyses. This rhetorical analysis aims at identifying specific techniques used in the art of public policy statisticians, the ability of statisticians and other quantitative professionals to produce appropriate evidence and arguments to justify a particular course of action. The reader must keep in mind that to arrive at a policy decision is not the culmination of the policy process, for it opens a new stage of justifications, explanations and persuasion (Majone 1989:31), that takes advantage of the art of public policy statisticians.

Most critiques of pension reform contest its economic assumptions, whether from a mainstream economic perspective, as that of Barr and Diamond (2011), or from the radical perspective of progressive political economists, such as that of Jan Toporowski (1999) and Vicenç Navarro and Juan Torres López (2013). To a lesser extent, critiques of pension reforms are based on its distributional consequences, as it is the case of those dealing with its gender dimensions (James, Cox, and Wong 2008). Among criticisms of pension reform policy, there is a scarcity of systematic research that examines the way that those reform proposals

are rhetorically constructed based on the particular modern appeal of hard numbers and statistical analysis.

The statisticians' realist rhetorical style

The Pension Reform Report, issued in February 2013, just two months after a newly elected government took office in Puerto Rico, analyzes two quasi-public pension systems, the Public Employees Retirement System and the Teachers Retirement System. The Report identifies its objectives as:

- (1) to estimate the deficit of the pension systems;
- (2) to diagnose the causes of that deficit; and
- (3) to explain the consequences of doing nothing or enacting half-measures.

The report's first section starts with a cogent statement, "The actuarial deficit of the Retirement Systems was \$35.26 billion as of June 30, 2011" (p.1). Such an actuarial deficit means that in order to fulfill the future obligations with pensioners, the pension systems require an additional \$35.26 billion. To gauge the magnitude of this deficit, one must bear in mind that the total consolidated budget of the Government of Puerto Rico has never reached \$30 billion. Its second section, entitled "What went wrong," presents the reasons that purport to explain the causes of such actuarial deficit. Its third section, "We need to act now," presents the consequences if no reform is implemented. The Pension Report does not provide a single specific policy proposal, it only claims that reforms should be undertaken.

In contrast with many dense and voluminous government documents, written for highly trained professionals, the Pension Report relies on a visually appealing graphic design. This 14-page document with less than 5,000 words contains one timeline, one table, two diagrams, three bullet lists, five pull-quotes, and nine statistical charts. The statistical charts foster credibility among an audience who trusts the veracity of numbers. The pull quotes, section titles, chart titles, and bullet lists direct the attention of the reader to the message of the need of reform. For example, one pull quote boldly asserts "The annual costs of the Retirement System is unsustainable" (p. 8). The document projects an appropriate tone for an authoritative voice. Its authors demonstrate excellence in the use of stylistic clues of the rhetoric of visual conventions, such as credibility, emphasis, and tone (Kostelnick and Hasset 2013). It is a matter of debate if the document is based on rigorous research, or not, or whether it lays the appropriate foundation for policy reform; but its visual appearance conveys the message that

its authors are competent professionals.

The authors of the Puerto Rico Pension Reform Report, consciously or not, followed a particular style of “political rhetoric,” understood as a specific “coherent repertoire of rhetorical conventions that depend on aesthetic reactions to produce a political effect” (Harriman 1995:4). More specifically, the Pension Report follows the realist style of political rhetoric that, according to Aune (2002), intersperses an epistemological position, a rhetorical stance, and a political theory. Authors who follow the realist rhetoric style typically express contempt towards rhetorical practices, which are considered distractions and unnecessary ornaments. The realists profess to see the world as it really is, since they consider themselves to be free of philosophical traditions and theoretical commitments, akin to the epistemology of positivism.

Reduction of policy objectives to numbers: metonymy

The master trope of realists is metonymy (Aune 2002), the figure of speech in which an object is referred to by one of its attributes, as in the case of referring to a whole object by one of its parts, or referring to an effect by its cause. But Aune specifies that metonymy is a reduction. In his analysis of economic texts that defend the free market, this reduction takes the form of a specific calculation of power. The view of metonymy as a reduction is consistent with that of Kenneth Burke (1945) in his reflection on science and its failure to understand the social world. For Burke, science is basically concerned with processes: it can only state that when certain events occur, other events follow. Accordingly, all what is needed in science is correlation; but when science enters the social world, correlation is not sufficient. Here, Burke states that “any attempt to deal with human relationships after the analogy of naturalistic correlations becomes necessarily the *reduction* of some higher or more complex realm of being to the terms of a lower or less complex realm of being... The basic ‘strategy’ in metonymy is this: to convey some incorporeal or intangible state in terms of the corporeal or tangible” (p. 506, emphasis in the original). Consistent with Burke, in an epistemological analysis, Lawrence H. Tribe (1972) affirms that policy sciences are driven by an interest in collapsing processes into results.

The master trope that guides the Pension Report is the metonymy that reduces the analysis of pension systems to a collection of numerical indicators of the financial solvency of the system, such as actuarial deficit, actuarial coverage, employers’ annual contribution, number of participants, and number of beneficiaries. According to the first and second objectives of the report, the deficit is the only problem that requires to

be analyzed. Nowhere in the document is a recognition of the diversity of problems associated with the reform of a pension system.

The vast literature on pension reforms affirms the importance of recognizing that: (1) pension systems have multiple objectives; and that, (2) pension systems should be analyzed in their entirety (Barr and Diamond 2011). Advocates of pension reforms must be aware that pension systems are mechanisms of social redistribution that alleviate poverty in old-age, influence labor markets, promote economic growth, and mitigate gender imbalances. Under this view, an appropriate policy analysis of teachers' pension reforms must examine:

- if the proposed reforms will make it difficult to attract a talented youth eager to pursue a career in education;
- if reforms could delay the renovation of older teachers with a new generation of recently trained teachers; and,
- knowing that teachers' salaries are quite low and that its labor force is overwhelmingly female, if pension reforms could increase the incidence of poverty among older women.

Scholars of pension reform would not find merit in an analytical strategy that reduces multiple policy objectives to a financial calculus.

Reiteration that the numbers speak for themselves: prosopopoeia

The authors of the Puerto Rico Pension Reform Report used the cliché “the numbers speak for themselves” as an ancillary trope for the master trope of metonymy. If the analysis and understanding of a phenomenon rest on the reduction of its complexities to a numerical calculus—metonymy—, it is strategic to represent such calculus as objective, this is, as completely separated from the authors' subjective decisions. The title of the Pension Report, *The Numbers Speak for Themselves: We must Reform Our Retirement Systems Now*, embodies the worldview of the statistical profession and its particular epistemological position that considers statistical analysis as a purely objective endeavor (Avilés 2008). The title contains two juxtaposed elements:

- (A) The Numbers Speak for Themselves, a typical statement among statisticians; and,
- (B) We must Reform Our Retirement Systems Now, a policy statement.

The juxtaposition suggests that the policy statement (B) is a consequence of the statistical statement (A), an example of *post hoc ergo propter hoc*, “after this, therefore, because of this.” The title encapsulates the logic that the authors would like to convey throughout the text: the

imperative of reforming the pension systems is a logical consequence of what the numerical data assert. Under this logic, numbers are portrayed as the real advocates for pension reform, while government officials, policy analysts, and other interested parties remain speechless and invisible. According to this logic, those who disapprove the data-driven conclusions of the Pension Report, could only do so on an irrational basis; to raise objections to the report conclusions is equivalent to raise objections to the advances of modern mathematics, statistics, and actuarial science.

The repetition of “the numbers speak for themselves,” a phrase included in the footer, next to the page number, in every single page of the document, is an appeal to objectivity that does not work well with learned audiences who know better. Respected scholars from different backgrounds have expressed reservations and even harsh criticisms to that cliché. For instance, philosophers of science Martin Mahner and Mario Bunge asserted that “data do not ‘speak’ by and for themselves. Indeed, data are worthless in themselves: they are useful only as inputs to some brain thinking of a hypothesis or a theory, and which is thus capable of supplying understanding” (Mahner and Bunge 1999:74). Edward Tufte, undoubtedly the most read author in matters of graphical representation of data, quoted in his book *The Quantitative Display of Visual Information* the expression that affirms that “although we often hear that data speak for themselves, their voices can be soft and sly” (Mosteller, Fienberg and Rourke 1993:234). Professor Gary T. Marx, of the Massachusetts Institute of Technology, advised his students to be suspicious if they hear from someone that facts speak for themselves, and sarcastically asked his students to start looking where the ventriloquist is (Behn 2009). Nobel Prize in Economics, Ronald Coase, increasing the sarcastic tone, says that if you torture the data long enough, they will eventually confess anything (Tullock 2001).

Statisticians are so hostile to rhetoric that they are not aware that the expression “the numbers speak for themselves” embodies a trope of classical rhetoric known as prosopopoeia, which clothes the statistical analysis “with corporeal forms, or endows [it] with speech and action” (Gibbons 1767, chapter 20, p. 349). The prosopopoeia ascribes an inanimate object, a concept, or an absent or dead person the act of speech, in order to support the orator’s argument. Prosopopoeia is a strategy that puts one’s thoughts in the mouth of someone else or something else. A 1759 rhetoric book advises to recur to prosopopoeia, “a fiction of a person,” when the orator

thinks his own character not of sufficient weight to affect his audience in the manner he desires, he substitutes a person of greater authority than himself to engage their attention; when he has severe things to say, and which may give offense as coming from himself, he avoids this

by putting them in the voice of some other person whom they will be better taken. (Ward 1759, Lecture XXXIV, p. 105)

Advocating a change in the terms of the pension funds of the elderly, is so offensive that it is better to assert that it is the voice of inanimate numbers that claims for such reforms. If one is to follow the 1759 rhetorical advice, the claim that a numerical fact speaks is in itself a recognition or the orator's perceived weakness.

Lack of acknowledgment of methodological subjective choices

Plethora of research on the history of science and statistics offers incontestable evidence that questions the ideal of objectivity (Datson and Galison 2007, Porter 2005), understood as the separation between the personal characteristics of scientists and their process of inquiry. The realist rhetorical style of the Pension Report portrays such objectivity, but an examination of the methodological choices made by its authors reveals subjective decisions that are at odds with the pretension that they only give voice to what the data proclaims. As I will present shortly, the two particular methodological decisions of sample selection and selection of the statistical indicator for life expectancy have the effect of skewing the analysis in ways that exaggerate its financial difficulties, but they remain unacknowledged under the realist rhetoric pretension of objectivity.

Starting with the basic and crucial methodological issue of sample selection upon which the data is obtained, a scrupulous reader can find unjustified subjective decisions. The Pension Report is based on data that comes from two specific pension funds, the Public Employees Retirement System and the Teachers Retirement System. The already available data of the pension funds corresponding to the Judiciary, the University of Puerto Rico, and the Electric Power Authority are overlooked by the Pension Report. The authors of the Pension Report assert that a similar analysis equally applies to these other pension systems, which is no substitute for an explanation of the criteria used for sample selection.

To identify a sample selection bias, I look for the funded ratio for each of the pension systems included and excluded from the Report. The pension system funded ratio is an indicator of fiscal solvency that represents what can be paid with the system's assets. A funded ratio of 100% means that all pension obligations can be paid with the available assets of the system. Table 1: Funded Ratio of Pension Systems, presents the data for each pension system in increasing order of fiscal solvency along with a column that indicates if the system was part of the study sample.

Why was the pension system of the Judiciary, the second worst from the list, excluded from the analysis? Was it excluded based on the

Table 1
Funded Ratio of Pension Systems in Puerto Rico
June 30, 2011

Pension System	Funded Ratio (%)	Included in the report?
Public Employees (A)	6.8	YES
Judiciary (B)	16.7	NO
Teachers (C)	20.8	YES
University of Puerto Rico (D)	41.0	NO
Electric Power Authority (E)	50.0	NO

SOURCES

A. Glenn D. Bowen, Timothy J. Nugent, and Katherine A. Warren. Puerto Rico government employees retirement system - June 30, 2011, Actuarial Valuation Report. Milliman, June 7, 2012.

B. Glenn D. Bowen and Katherine A. Warren. Puerto Rico Judiciary Retirement System - June 30, 2011, Actuarial Valuation Report. Milliman, February 6, 2012.

C. Glenn D. Bowen and Katherine A. Warren. Puerto Rico Teachers Retirement System - June 30, 2011, Actuarial Valuation Report. Milliman, February 7, 2012.

D. Héctor D. Gaytán. University of Puerto Rico Retirement System - June 30, 2011, Actuarial Valuation Report. Buck Consultants, December 19, 2011.

E. Luis J. Torres Llompарт and Frank Sánchez Ruiz. Employees Retirement System of the Puerto Rico Power Authority - Basic Financial Statements and Management's Discussion and Analysis - Years Ended June 30, 2011 and 2010. Torres Llompарт, Sánchez Ruiz, LLP, San Juan, Puerto Rico, September 28, 2011.

political reason that it was wise to avoid antagonizing the judges whose decisions can overturn any attempt of reform? The Pension Report is based on data from pension systems with funded ratios of 6.8% and 16.7%, and excludes the two pension systems with the best indicators of fiscal solvency, those with funded ratios of 41% and 50%. A reader who asks why the analysis is based on the pension systems with worst financial situation (excluding the Judiciary) will find no explanations for such selection. An analysis of the worst cases can be appropriate, but methodological rigor demands an assertion that the pension systems with better financial situation were excluded from the analysis. Such assertion does not appear in the Pension Report. This critique is not based on the idea that objectivity is the desired goal of statisticians; it only identifies a subjective methodological decision that should be acknowledged since it introduced a bias that exaggerates the effect under analysis.

Debates on pension reforms usually refer to the statistics of life expectancy as an explanation for current pension fiscal difficulties. From the standpoint of demography or vital statistics, an inspection of the Pension Report can find a bias in the methodological choice of the statistical indicator of life expectancy. To proceed with the analysis, it is crucial to understand a series of issues regarding life expectancy. First, the term life expectancy usually refers to life expectancy at birth, which means the amount of years that an average newborn is expected to live. Second, a related indicator, life expectancy at age 60 denotes the additional years of life that an average 60-years old person is expected to live. Third, much of the gain in life expectancy at birth in the past century was not the result of prolonging the life of the elderly, but of considerable advances in reducing infant mortality (Decady and Greenberg 2014). Dramatic increases in life expectancy at birth do not mean that people live longer, it means that children's deaths were prevented.

The authors of the Pension Report explained that Puerto Rico has increased its total, male and female, life expectancy in about 16 years, using data from 1950 and 2004. Table 2 uses the most recent data

Table 2
Life expectancy at birth and for the 60-64 age group,
by sex, 1950 and 2009, Puerto Rico

Life expectancy at birth	Men	Women	Total
1949-51 (A)	59.5	62.4	60.9
2008-2010 (B)	74.9	82.6	78.7
Increase	15.4	20.2	17.8
Life expectancy at age 60-64	Men	Women	Total
1949-51 (A)	17.4	19.8	18.5
2008-2010 (B)	22.0	25.9	24.1
Increase	4.6	6.1	5.6
SOURCES			
A. Jose Luis Vázquez Calzada, Nydia R. Morales and Jose L. Janer. Abridged Life Tables for Puerto Rico. Tables 20, 21 and 22. Department of Preventive Medicine and Public Health, School of Medicine, University of Puerto Rico, San Juan, Puerto Rico, 1963.			
B. Departamento de Salud de Puerto Rico. Tablas de Vida Abreviadas para Puerto Rico: 1999-2001 a 2008-2010. San Juan, Puerto Rico, February 2013.			

(2008-2010) and confirms a similar gain in life expectancy at birth, 17.8 years. The authors made the subjective decision to focus on differences in life expectancy at birth, as opposed to base their analysis on the life expectancy at 60 or 65, the retirement age. The Pension Report asserts that “the increase in life expectancy forces the Systems to pay pensions for longer than anticipated, which has negatively impacted the Systems” (p.7), as if it were true that a 16-year difference in life expectancy means that pensioners are being paid pensions for 16 more years than what the pension system anticipated.

As presented in Table 2, the increase of life expectancy for the age group 60-64, between 1950 and 2009 is less than 6 years, an amount much smaller than the 16 years mentioned in the Pension Report. For those persons in the 60-64 age group, their life expectancy has not improved much over the last five decades. To be truthful, in any case, pensioners increased their paid pension years in about one year after each decade since 1950. The subjective decision of the authors of the Pension Report to use life expectancy at birth as opposed to life expectancy at age 60 (or age 65) is used without explanations. The realist style of rhetoric used in this report dissimulates the subjective methodological choices that exaggerate the fiscal situation of pension systems.

Statistically designed impending calamities

It is somewhat expected that the authors of the Pension Report used a realist rhetorical style that utilizes metonymy to reduce multiple policy objectives to a calculus of financial variables. But their attempt to introduce drama and stir emotions into an otherwise tedious and monotonous policy report full of statistics is commendable. The Pension Reform presents a grim picture of the future, and makes an urgent appeal to intervene to solve the problem:

The Retirement Systems’ crisis is no longer the exclusive problem of public employees who expect to enjoy certain retirement benefits; it is a systemic risk that threatens Puerto Rican society and the everyday life of all citizens living on the Island. The longer it remains unsolved, the more insolvent the Systems will get and the worse the adverse social effect of any solution. (p. 3)

The Aristotelian appeal to emotions—*pathos*—used in the Pension Report to persuade its readers of the need of an encompassing pension reform, seems to be the antithesis of the cold and calculating character of number driven arguments. But the authors of the report build statistical arguments to appeal to emotions by spreading fears of an unlivable future that must be avoided. For example, they forecasted that

...the burden of pension expenses on the [Government's] General Fund is too high and will keep growing. This jeopardizes the provision of basic services such as public security, medical coverage and public education that the Government should provide to citizens. (p. 10)

If a pension reform is not undertaken—so their argument goes—pensioners' monthly payments will leave government with no fiscal resources to have a police department, to provide health services to those in need, and to maintain schools open for children. This advocacy of reform based on fears of future scenarios follows one of the typical logics of what Hirschman (1993) refers to as the rhetoric of reform. What he referred in his previous book as the “imminent danger thesis” (Hirschman 1991), the belief that an urgent action is necessary in order to prevent a harmful event, he now calls it an “impending-disaster blackmail,” a term that denotes the deliberate use of fear to trigger a particular reaction to favor one's interests.

Any clever statistician can take almost any policy alternative and elaborate an impending calamity if a reform is not undertaken. Future calamitous scenarios, produced by the mathematical method of extrapolation, are based on the expectation, whether probable or not, that the behavior of a quantitative variable beyond its observed values (“into the future”) will exhibit the same pattern established within its observed values (“in the past”). Extrapolations that involves social phenomena are commonly undertaken, and considered to be valid as long as the quantitative forecaster adds the caveat of *ceteris paribus*, the “economist's equivalent to the magician's ‘abracadabra’ ” (Aune 2002:22). Through *ceteris paribus* the forecaster of calamities embraces the untenable sociological assumption that absolutely nothing will change in that society, even in the wake of an upcoming disaster.

Take for example the following assertion of the Pension Report,

...if we do not make drastic changes to the Retirement Systems, present [Government's] General Fund contributions to the Systems would have to increase significantly during the next 20 years in order to make pension payments. ...this means that by 2030, for every dollar the Government gets in revenues, 41 cents would be destined to pay pension obligations to public employees. (p. 9)

If it is assumed that the mathematics of the extrapolation is correct, the assertion that by 2030, 41 percent of the Governments General Fund will be used to pay pension obligations is unreal (see Table 3). It means that government officials will remain indolent after 2014, when almost one-sixth of governments budget (14 percent) will go to pay pensions, and will keep the same attitude, doing nothing by 2023 and 2030 while observing one-third (33 percent) and two-fifths (41 percent) of the government budget going to fund pensions. Since such scenario requires

Table 3
Projected Portion of the General Fund

Designated to Pay Pension Benefits per Revenue Dollar	
Year	Proportion of the General Fund (%)
2013	7
2018	14
2023	33
2030	41
Source	
Data presented in Puerto Rico Government Development Bank, <i>Numbers Speak By Themselves: We Must Reform Our Retirement Systems Now</i> , February, 2013, Figure 6, page 9.	

unrealistic sociological assumptions, it constitutes the absurd conclusion of an ill-suited extrapolation.

The political economy of the Pension Report

This article's contribution to the scant dialogue between the discipline of rhetoric and the practice of statistics, in the context of policy analysis in Puerto Rico, will be insufficient if it neglects to evaluate its rhetorical situation, this is, the complex of events, persons, and relations that demands the production of a particular discourse intended to intervene with some aspect of reality, with a relative degree of urgency (Bitzer 1992). The political economy of the Puerto Rico Pension Reform Report becomes essential to understand the rhetorical situation that demands the production of such report.

In an open letter to the Governor of Puerto Rico, Cate Long (2012A) stood by everything she said in her earlier post "Puerto Rico is America's Greece," where she wrote that if investors "had done the math, they likely would not be buying maturities that come due too far into the future, because it's unlikely that Puerto Rico will be solvent enough to repay them" (Long 2012B). In the following months, reporters from the United States (Greene 2013), Europe (*The Economist* 2013), and the Caribbean region (Ruiz-Marrero 2014) pointed to the disquieting similarities between the fiscal situation of Greece and that of Puerto Rico, a Caribbean island-nation and a modern day colony of the United States (Trías Monge 1999).

Many indicators provide credibility to the fateful comparison of Greece with the Commonwealth of Puerto Rico. The island had witnessed seven consecutive years of negative economic growth by 2013

(Carmona 2013) and for the first time in over a 100 years there was a reduction of the island's population, from 3.8 millions in 2000 to 3.7 millions in 2010 (U.S. Census 2012). The 2008-2012 administration balanced its government budget with massive lay-offs of public employees, privatization of toll roads (Marino 2012), and the imposition of a 4% excise-tax to foreign industries (Departamento de Hacienda de Puerto Rico 2013). This economic and fiscal crisis is rooted in a model of economic development centered on an enclave of foreign owned manufacture, which find in the island a tax haven with direct access to the United States market (Pantojas García 1992). A steady increase in government debt-emissions was required to provide the necessary infrastructure for this failed model of economic development (Catalá Oliveras 2013).

The continuous debt emission of the Government of Puerto Rico in the US municipal bond market is the result of the particular appeal of its bonds, since its Constitution mandates that general obligation bonds installments should be paid before fulfilling any other governmental obligations as for instance, paying public employees's salaries.¹ In November 2012, one week after the election of the Commonwealth of Puerto Rico Governor Alejandro García-Padilla, the credit rating agency Moody's Investors Services, issued a report that contained the following warning:

The governor-elect will face a difficult fiscal environment that has challenged the Commonwealth for the past six years, , (sic) including a lingering recession, high unemployment, a weakened manufacturing sector and significantly increased debt levels. The commonwealth's severely underfunded retirement systems also face assets that are projected to rapidly decline from an already low level. Enactment of pension reform initiatives to extend the life of plan assets and reduce the cost burden are key to our analysis of the Commonwealth's general obligation rating. (Moody's, November 14, 2012)

Just a month after issuing the previous warning, Moody's downgraded Puerto Rico general obligation bonds from Baa1 to Baa3 with a negative outlook (Moody's, December 13, 2012). Taken together, this classification is a notch up from "junk bonds." The specter of further bonds downgrade forced Governor García-Padilla to embrace Moody's advice on pension reform, breaking his election promise. A disconcerted Governor García Padilla, frustrated by the persistent demands of credit rating agencies, asserted in a press conference that, "if bond holders would like to run the government, they should run for office" ("a los bonistas, si quieren gobernar, que se postulen") (CyberNews 2013). It only took a few hours for the municipal bond market analyst, Cate Long, to reply to the faux pas of the Governor. In an expression that seems to be taken from the Communist Manifesto's description of the state, she contended that Governor García-Padilla "knows in his heart that rating

agencies direct the fate of his nation as much as he does. Many masters rule and in tough times all must work together” (Long 2013).

Throughout 2013, Moody’s carefully observed the course of pension reform initiatives in Puerto Rico (Moody’s, May 15, 2013). Moody’s catalogued as a “credit positive” the Puerto Rico Supreme Court decision that upheld reforms to the Government Employees Pension System that increased their members’ contribution, reduced their benefits, and increased their retirement age (Moody’s, June 27, 2013). By the end of 2013 Governor García-Padilla presented legislation for an encompassing reform of the Teachers’ Retirement System. The Senate approved the law project without public hearings, the very same day when Moody’s issued a report envisioning a possible general obligations bond downgrade for Puerto Rico (Moody’s, December 23, 2013). Six weeks after, the fateful day arrived, and Puerto Rico general obligation bonds were downgraded to “junk” status (Moody’s, February 7, 2014).

This series of events provides evidence to assert that government elected officials, however contradictory their public persona were, acquiesced to the demands of the credit rating agencies who consistently insisted in the adoption of pension reform, as part of a set of austerity measures to facilitate the scheduled payments to bondholders. As Puerto Rico approached insolvency, the municipal bond market capitalized—literally—on the failures and not on the successes of the Puerto Rican economy. Under this scenario it was extremely convenient to issue a policy document that can achieve two goals: (1) to appease the demand of the credit rating agencies, at least for a while; and (2) to provide numerical evidence and numerical argumentations to justify the requested pension reforms in order to increase the general public support for this measure. The art of public policy statisticians was crucial to achieve such goals.

Conclusions

The conversation between the disciplines of rhetoric and statistics has not been fruitful, at least, among economists. Professor McCloskey (1999) expressed her deep disappointment with her economists colleagues through the use of an allegory of the mythical Cassandra. The daughter of the rulers of Troy, Cassandra, was able to accurately foretell the future; but, cursed by the god Apollo, her prophecies were to be disregarded by the people, who considered her to be insane. She insisted that the horse brought to the citadel of the walled city of Troy had enemies within, but no one believed her and at the end of the day she witness the destruction of her city. McCloskey recognized to be equally engaged in a futile endeavor since most economists remained

reluctant to acknowledge that statistics is persuasion, and therefore, a matter of rhetoric.

The field of public policy offers a different ground to rekindle the dialogue between rhetoric and statistics, along a road that is not conducive to futility. Since public deliberation requires a thorough analysis of the arguments used to support, modify, or reject a particular policy, rhetorical analysis constitutes a most helpful tool to dissect and criticize the quantitative arguments of the opponents and to sharpen ones own. As this research demonstrates, the dialogue of rhetoric and statistics is a matter of practical convenience for the conduct of the routinely activities of policy analysts who must deal with, and at times counteract, the allure of numerical arguments as a basis for public policy.

The public policy statisticians who drafted the Pension Report were quite good in the art of producing a statistical rhetoric that appeals to a lay general public that bestows credibility to numbers. They were particularly skillful in following a realist style of political rhetoric that facilitates representing themselves as disinterested scientists that interpreted what the data assert and explained their incontestable conclusions. Nevertheless, such art is not equally appealing to the rhetorically minded quantitative professional, who can identify the shortcomings, biases, uses of cliché, and the misleading strategies of the report. A rhetorical analysis of the Puerto Rico Pension Reform Report must concurred with the assertion that "the secret language of statistics, so appealing in a fact-minded culture, is employed to sensationalize, inflate, confuse and oversimplify" (Huff and Geis 1954:8).

The presence of a vigorous public debate can tame the worst excesses of the art of public policy statisticians. Since public deliberation in Puerto Rico differs from that of Spain, where prominent scholars have challenged the arguments of pension reforms on books and popular pamphlets whose translated titles into English are, *Are Pensions at Risk? The Questions We All Ask and their Hidden Answers* (Navarro, Torres López, Garzón Espinoza 2013), *The Pension Reform Proposals and their Tramps* (Etxezarreta, Idoate, Fernández y Junjet 2010), the art of public policy statisticians will not be under an intense scrutiny. The advocated dialogue of the discipline of rhetoric and the discipline of statistics must continue, it is extremely useful to identify and expose the flaws of the art of public policy statisticians; an art that at times hurts the discipline of statistics and deters the public deliberation that is essential for the practice of real democracy.

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Note

- ¹ The Constitution of the Commonwealth of Puerto Rico establishes in its Article VI (General Provisions), Section 8, that “In case the available revenues including surplus for any fiscal year are insufficient to meet the appropriations made for that year, interest on the public debt and amortization thereof shall first be paid, and other disbursements shall thereafter be made in accordance with the order of priorities established by law.” Official English document is available at <<http://www.constitution.org/cons/puertorico-eng.htm>>, accessed July 18, 2014.

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