Puerto Rico's Dependent Development:
A Comment

Arthur MacEwan
Department of Economics
University of Massachusetts Boston

July 2003

Puerto Rico, the world's most populous remaining colony, has at times been touted as an economic development showcase. During the 1950s and 1960s, "Operation Bootstrap," appeared to lift the island out of poverty and place it on a course of economic growth leading towards convergence with the United States. In 1996, William J. Baumol and Edward N. Wolff published an article in *World Development* (Vol. 24, No. 5) titled "Catching Up in the Postwar Period: Puerto Rico as the Fifth 'Tiger'?" Examining the 1950 to 1990 period, Baumol and Wolff state: "The data on the level and growth rate of labor productivity along with the statistics on the level and growth of per capita GDP in the Commonwealth of Puerto Rico tell a dramatic story." (869) And: "… Puerto Rico appears from the available data to have achieved economic progress that places it among the frontrunners of the world's economies." (869) As the title of their paper suggests, they believe it might be appropriate to view Puerto Rico in the same category as the so-called Asian tigers.

There are, however, some problems with the analysis presented by Baumol and Wolff. Jose A. Piden has pointed out one of these problems in his 2003 *World Development* article, "Puerto Rico in the Post War: Liberalized Development Banking and the Fall of the 'Fifth Tiger,'" (Vol. 31, No. 2). Puerto Rico's apparent forty year's of rapid expansion was in fact made up of two very distinct periods, before and after 1974. In the former period, GDP expanded extremely rapidly, but in the latter the economic growth rate was moderate. Furthermore, if one looks beyond 1990, the end year of the Baumol and Wolff study, the growth of the Puerto Rican economy has not been rapid; the apparent convergence with the U.S. economy, emphasized by Baumol and Wolff, did not continue. (LeFort, 2000).

Yet there is a more substantial problem with the Baumol and Wolff analysis. They build their entire case on GDP figures. For Puerto Rico, however, GDP figures tell a misleading story, exaggerating economic expansion in the past half century. A significantly different and more appropriate story emerges when we examine the GNP figures.

It is important to correct the conclusions presented by Baumol and Wolff partly for the simple reason that we need an accurate quantitative picture of what has happened to the Puerto Rican economy. In addition, the GDP-GNP distinction brings out some significant economic development issues. Baumol and Wolff's inaccurate quantitative picture allows them to draw some broad conclusions about development that, at least on the basis of the analysis they present, are unwarranted. Not the least notable of these is their claim that the Puerto Rican experience tends to debunk dependency theory. I will suggest that, on the contrary, the Puerto Rican experience tends to support the dependency arguments. In this regard, recognition of the island's colonial status – officially, the ambiguous "Commonwealth" status – is a major factor in explaining the course of its economy.

The Puerto Rican GDP-GNP Gap[1]

In order to gauge the level of material well-being in a country (or region) and to determine how rapidly economic activity is expanding, we usually look at Gross Domestic Product (GDP). By definition, this statistic tells us how much economic activity is taking place within the particular geographic region with which we are concerned. Gross National Product (GNP), however, tells us how much economic activity is attributable to the nationals of the country.[2] Under most circumstances, then, GDP gives us a better sense than does GNP of how much production is actually taking place within the country (or region) and how much income is available for consumption and investment uses within the country. Thus GDP seems to give us a good gauge – or at least a better gauge than does GNP – of material well-being. Baumol and Wolff, accordingly, use GDP data as the basis for their analysis of Puerto Rico.

As a practical matter, for most countries it does not make much difference whether we use GDP or GNP as our means of determining the level of economic activity and the rate of economic growth. The two figures are usually fairly close to one another. Not so for Puerto Rico. For 1992, the Penn World Tables provide the GNP-GDP ratio for 128 countries and the territory of Puerto Rico. For 59 of the countries on the list, the ratio lies between 0.97 and 1.03, and the ratio for 115 lies in the 0.90 to 1.10 range. There are four outliers on the upper end, and ten with the ratio below 0.90. Of these ten on the bottom, only two have GNP to GDP ratios lower than 0.80. For Guyana the ratio in 1992 was 0.694. Puerto Rico is at the bottom of the list, at 0.654.[3]

The explanation for Puerto Rico's position on this list is well known: the huge involvement by US-based firms in Puerto Rico and the huge profits they obtain account in most part for the GDP-GNP gap.[4] That is, a large share of the GDP registered in Puerto Rico does not go as income to Puerto Ricans or to Puerto Rican firms and is not directly available for their use (as either consumption or investment expenditures). Not only is the Puerto Rican GDP-GNP gap large, but, of special importance for assessing the island's economic growth, it has grown substantially over the last several decades. (See Table 1 and Figure 1 below.)

The profits of U.S. firms are not only unavailable for direct use by Puerto Ricans and Puerto Rican firms (though they nonetheless may be indirectly available – see below), but to a significant extent they do not even represent real activity within Puerto Rico. Since 1976, U.S.-based firms operating in Puerto Rico have generally done so under Section 936 of the U.S. tax code. When coupled with local incentives, Section 936 has allowed these firms to avoid taxes on their profits so long as they did not return those profits to the U.S.[5] Not surprisingly, firms operating under Section 936 in Puerto Rico have reported extremely large profits. According to Dietz (1986, 303), during 1982-83, "in spite of the crisis affecting the rest of society… section 936 corporations had profits equal to 98.6 percent of their capital. Firms in the pharmaceutical industry had profits equal to 246 percent of their capital." Ruiz and Melendez (1998, 145), report that in 1987 for 936 firms in manufacturing, profits (including all forms of property income) accounted for 77 percent of value added, while in the rest of manufacturing profits were only 16 percent of value added. These figures for the profits of 936 firms can be explained by two related phenomena: first, especially in the pharmaceutical industry (by far the largest 936 sector), but perhaps in other sectors as well, firms have transferred ownership of valuable property rights to their Puerto Rican subsidiaries so that profits of world-wide activities show up on the books in Puerto Rico; second, firms use internal transfer prices to locate as much of their profits as possible in their Puerto Rican subsidiaries.[6] Thus the profit figures and the GDP figures of which they are a part provide an unreal, inflated picture of activities in Puerto Rico.

To take full advantage of Section 936 and other tax incentives (notably a tollgate tax on repatriated profits), firms could not return their profits to the U.S. Insofar as these profits have been kept in Puerto Rico, they might be viewed as having contributed to the supply of capital on the island and thus having brought about a higher rate of investment and growth than would otherwise have been the case. If this were true, in spite of their "unreal" nature, they could have contributed to well-being in Puerto Rico. In fact, there is no evidence that interest rates in Puerto Rico have been low as a consequence of additional funds being kept in local financial institutions. Moreover, the otherwise free flow of funds between Puerto Rico and the mainland makes it unlikely that the un-repatriated profits would have a significant impact. Given the fungibility of financial assets and, in particular, the opportunities for firms to use their Puerto Rican financial assets as collateral for activities elsewhere in the world, it is reasonable to assume that these profits that were not returned to the U.S. had little, if any, impact on capital availability in Puerto Rico.[7]

Thus it seems more appropriate to use GNP figures, rather than the GDP figures used by Baumol and Wolff, to appraise what has happened in Puerto Rico.[8] The differences are set out in Table 1 and illustrated in Figure 1. Baumol and Wolff report a 1950 to 1990 growth rate of Puerto Rico's real per capita GDP of 3.95%. In Table 1 this rate is 4.3%. (Data used here are from a different source than those used by Baumol and Wolff, but the small differences in the numbers do not affect the conclusions.) The significant factor is the substantially lower GNP per capita growth rate for this period – 3.2%, more than a whole percentage point per year lower. The data in Table 1 show the difference between the GDP and GNP growth rates decade-by-decade. While the gap is substantial throughout the period, it grows decade-by-decade up to the 1990s and then the two rates are the same for the 1990s. Furthermore, the difference that appears when we examine economic growth figures using the two different measures is the same when we examine productivity; in addition, given the point noted above regarding the "un-real" nature of the profits data, Baumol and Wolff's use of GDP per worker to measure productivity seems especially inappropriate.

If we use GNP as our index of achievement, then for the 1950 to 1990 period, Puerto Rico is no longer a high performer, as Baumol and Wolff argue. Instead, over this period its performance is perhaps "good" but far from the "tiger" range. Moreover, still using the GNP criterion, in the three decades since 1970, Puerto Rico's growth performance drops from "good" to what we might call "fair." Indeed, even if we use the GDP growth rates, Puerto Rico's performance in these recent decades, as pointed out above, hardly places it in the "tiger" category.

Figure 1 shows the GDP-GNP gap for Puerto Rico in absolute (not per capita) terms. The figure indicates the dramatic and growing difference that arises when we use the (lower) GNP figures as opposed to the (higher) GDP figures.

Dependent Development

The gap between GDP and GNP is a measure of the 'de-territorialization' of the Puerto Rican economy (what would be called de-nationalization were Puerto Rico a nation). This de-territorialization is a measure of the degree to which the economy of the island is dependent on outside sources of capital and outside decision-making. While 'outside' forces are not necessarily bad, firms based outside of Puerto Rico are likely, in general, to operate in a different manner than firms based within Puerto Rico. The former face different sets of information and different sets of economic, political and social connections than do the latter. While both the outside and inside firms may have the same set of goals (profits), they have different sets of "boundaries;" as a consequence, they are likely to behave differently. (Evans, 1979)

The successful economic development of a nation or region – and, with economic development, long term economic growth – has depended upon the existence of a substantial group of firms and individual investors who have a strong identity with and an interest in the local/national/territorial economy. In other words, economic development has been a social process, a process where (with a few exceptions) a capitalist class has played a central, organizing role. In many parts of the world, however, the formation of such a class has been pre-empted or perverted by the large role that foreign business plays in the operation of the economy. Under these circumstances, some economic growth may take place – even something we can call economic development – but it is a limited growth or development, and, of special importance, it is often unstable and limited in duration.[9]

These observations lie at the core of the dependency analysis. (Cardoso and Faletto, 1979; Evans, 1979; Frank, 1967 and 1972) Baumol and Wolff see this analysis as contradicted by the Puerto Rican experience. For while Puerto Rico is a highly dependent economy in terms of its reliance on foreign investment, Baumol and Wolff see it as a great success in terms of growth and development. Even if their use of GDP data were accepted, the weakening performance of the Puerto Rican economy since the mid-1970s would call into question at least the strength of their argument. The use of GNP as a measure of growth would appear to vitiate their claim of great success.

Indeed, the growth experience of Puerto Rico as recorded with the GNP data are fully consistent with the dependency argument. Furthermore, the GDP-GNP gap provides a quantitative indication of the socio-economic problems at the core of the dependency analysis.

Good examples of the socio-economic problems that can be understood as consequences of the de-territorialization of the Puerto Rican economy are the weakness of the island's public school system and the low savings rate coupled with the low non-foreign investment rate. In the dependency analysis, an effective business class, a class that was not undermined by the dominance of foreign business, would play an important role in leading the state to improve the educational system and in itself providing the funds for economic development. Ironically, Baumol and Wolff cite the high level of education of the Puerto Rican labor force and a high investment rate (including foreign investment) as basis for their high GDP growth rate.[10]

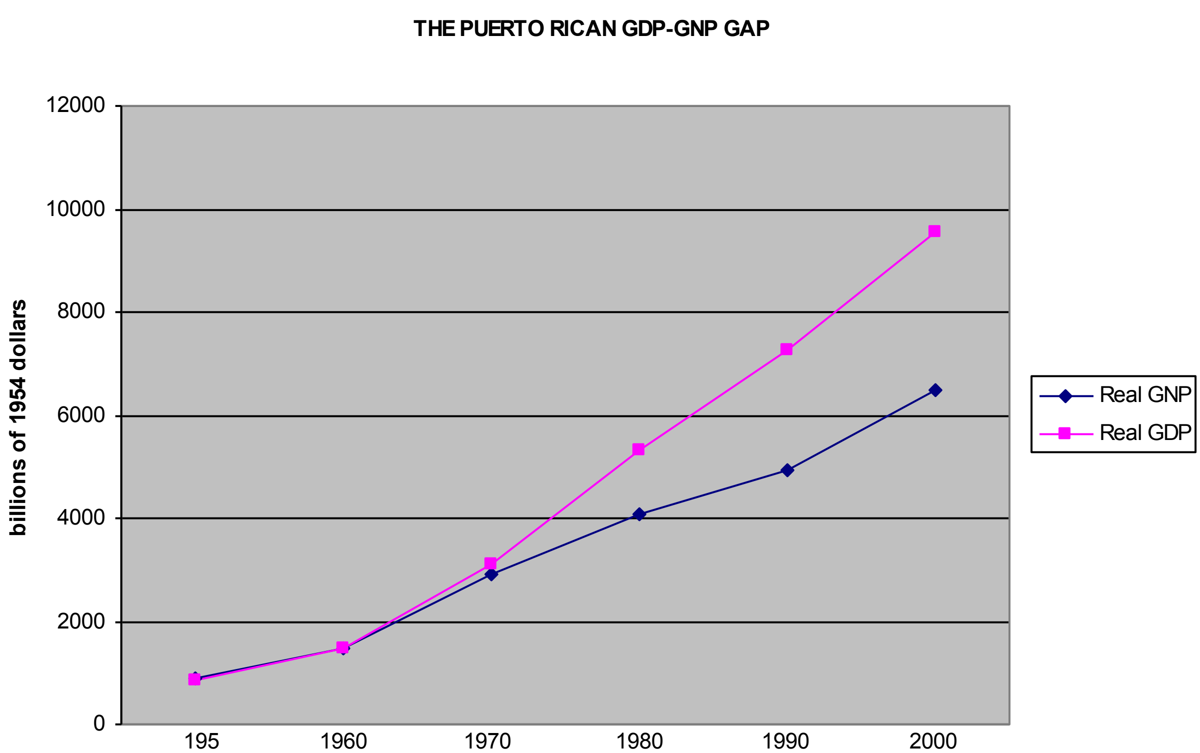
Among the many parts of the world where economic development lags, Puerto Rico's ambiguous commonwealth status – in reality, a colonial status – gives its problems a particular character. Dependent development is exactly what one might expect in a U.S. colony. On the one hand, Puerto Rico has achieved some substantial economic growth with its close connection to the United States, benefiting from large inflows of investment and from government transfer payments. In the Latin American context, Puerto Rico is not poor, and it has attained substantial economic progress in the era since World War II. On the other hand, its development remains a dependent development. It has not maintained high rates of economic growth that would lead towards convergence with the U.S. economy, and it has not established firm foundations for continuing development. Colonial status, which is by definition a status of dependency, is unlikely to bring long term economic success to Puerto Rico.

Table 1
GDP and GNP Per Capita Annual Percentage Growth Rates for Puerto Rico, 1950 – 2000

from	to	1960	1970	1980	1990	2000
1950	**GDP**	5.2	5.7	5.0	4.3	3.8
	GNP	4.7	5.0	4.0	3.2	3.0
1960	**GDP**		6.2	5.0	4.0	3.5
	GNP		5.5	3.6	2.7	2.5
1970	**GDP**			3.8	3.0	2.6
	GNP			1.8	1.4	1.6
1980	**GDP**				2.1	2.1
	GNP				0.9	1.5
1990	**GDP**					2.0
	GNP					2.0

Source: Computed using GNP and GDP data from Dietz (1986: Table 5.1) for 1950-1980 and from Planning Board of Puerto Rico (2002: Table 1). Population data are from *Statistical Abstract of the United States*, (2001 and earlier years). It should be noted that the Planning Board uses 1954 dollars to deflate GDP and GNP figures, and thus the precision of these figures should be viewed with caution.

Figure 1



Source: 1950-1980, Dietz (1986) Table 5.1; 1990-2001, Planning Board of Puerto Rico (2002). Real GDP has been calculated on the assumption that the deflator is the same as that for GNP.

REFERENCES

Cardoso, Fernando Henrique, and Enzo Faletto (1979). *Dependency and Development in Latin America*. Berkeley: University of California Press.

Dietz, James L. (1986). *Economic History of Puerto Rico.* Princeton: Princeton University Press.

____________ (2001). "Puerto Rico: The 'Three-Legged' Economy." *Integration and Trade Journal*, 5 (15), September-December: 247-273.

_____________ (2003). *Puerto Rico: Negotiating Development and Change*. Boulder and London: Lynn Rienner Publishers.

Evans, Peter (1979). *Dependent Development: The Alliance of Multinational, State and Local Capital in Brazil*. Princeton: Princeton University Press.

Frank, Andre Gunder (1967). *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil*. New York: Monthly Review Press.

_____________ __ (1972). *Lumpenbourgeoisie, Lumpendevelopment: Dependence, Class and Politics in Latin America*. New York: Monthly Review Press.

Hexner, J. Tomas, and Glenn P. Jenkins (1995). "Puerto Rico and Section 936: A Costly Dependence," *Tax Notes International*, January 16: pp. 235-254.

Lefort, Fernando (2000). *Puerto Rico's Economy Is Not Catching Up*, Documento de Trabajo 02-00, Escuela de Administracion, Potificia Universidad Catolica de Chile.

Padin, Jose A. (2003). "Puerto Rico in the Post War: Liberalized Development Banking and the Fall of the 'Fifth Tiger,'" *World Development* (31, 2): pp. 281-301.

Planning Board of Puerto Rico (2002). *Economic Report to the Governor 2001*. San Juan.

Ruiz, Angel L, and Edwin Melendez, "The Economic Impact of Repealing Section 936 on Puerto Rico's Economy," in Edwin Melendez and Angel L. Ruiz, editors, *Economic Effects of the Political Options for Puerto Rico*, Centro de Publicaciones, Universidad Interamericana de Puerto Rico, 1998.

---

[1] Dietz (1986 and 2001) has given a good deal of emphasis to this GDP-GNP gap, and it is his analysis that provided the original impetus for this "Comment." His writings also provide a more complete analysis of the Puerto Rican experience consistent with that suggested here. He takes the analysis further in Dietz (2003). Padin (2003) also notes the divergence of GDP and GNP, but does not develop the full significance of the GDP-GNP gap.

[2] Of course both GDP and GNP only take account of economic activity within the market (plus food produced by farmers for their own consumption and the imputed value of owner occupied housing). In the development process especially, where economic activity moves from the non-market context of the home to the market, GDP and GNP figures tend to overstate the rate of economic expansion. This is a problem, however, that is not peculiar to Puerto Rico and is beyond the scope of this "Comment."

[3] The data are available at http://datacentre2.chass.utoronto.ca/cgi-bin/pwt/getrank?b=1992&s=RGNP . The four outliers at the top of the list are Lesotho at 1.666, Pakistan at 1.417, Luxemburg at 1.372 and Saudi Arabia at 1.142. I would

think that analyses of economic growth in these countries should also pay attention to the stories behind their large GNP-GDP gaps.

[4] There are other components of the GNP-GDP gap, including income obtained by Puerto Rican firms and Puerto Rican individuals operating abroad (which reduces the gap) and income earned in Puerto Rico by foreign nationals (which raises the gap). Nonetheless, the very large size of the gap is accounted for by the profits of U.S.-based firms operating on the island.

[5] Section 936 also formally applied to U.S.-based firms' operations in other U.S. territories, but in fact virtually all 936 activity has been in Puerto Rico. (Hexner and Jenkins, 1995: 237). Beginning in 1996, the U.S. government began to phase out Section 936. It has, however, been replaced by new provisions, which, for purposes of the discussion here, do not make a substantial difference.

[6] See Hexner and Jenkins (1995) for a full description of these phenomena and for a discussion of efforts to modify Section 936 to eliminate these problems – efforts, which according to Hexner and Jenkins, have largely failed.

[7] Large amounts of these funds held in Puerto Rico do seem to have led to the growth of the island's financial sector. Perhaps in the long run, this expansion of financial services will prove a positive foundation for growth, but that remains a speculative issue.

[8] While "more appropriate" than the GDP figures, the GNP figures are far from perfect. Certainly some of the 936 profits should be counted, as are other profits, in contributing to the well-being of Puerto Rican people and firms. Yet, while reality may lie between GDP and GNP figures, it surely lies much closer to the latter.

[9] Dietz (2003) sets out a similar perspective on the Puerto Rican experience, developing the argument effectively in some detail.

[10] Even accepting their framework, the high investment rate that Baumol and Woff use obscures the fact that the investment rate, like the rate of growth, dropped after the mid-1970s. Also, while Baumol and Wolff report that investment averaged 23.9% of GDP for the 1950-1990, during the 1990s the figure was les than 17%. Personal savings as a percentage of disposable personal income averaged less than one-half of one percent during the period 1990 through 2000. (Planning Board of Puerto Rico, 2002) Especially important, during the era of rapid growth in the 1960s and 1970s, foreign sources provided well over half of Puerto Rico's investment, and the figure rose over 80% in the late 1970s. (Dietz 1986.Table 5.8). As to the quality of education, while good information is sparse, one indication of the schools' problems is indicated by the rising proportion of students going to private schools; data are not reliable, but the figure appears to be close to 25% in recent years.