PUERTO RICO'S ECONOMY
IS NOT CATCHING UP

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PUERTO RICO'S ECONOMY IS NOT CATCHING UP

I. A Simple Question

This paper asks a simple question: Has Puerto Rico moved towards the States during the last 10 to 20 years, or back to Latin America? This question is relevant in two different ways.

First, it is an overall test of the adequacy of Puerto Rico's economic policy. Although this paper does not analyze any specific policy, it compares Puerto Rico's economic performance with a large number of other economies, which have faced many of the same shocks and problems. Such an analysis gives a quite good indication of the relative quality of a country strategy for economic development.

Second, this analysis highlights the fundamental issue of the economic ramifications of Puerto Rico's political status. In particular, it has been argued that the statehood alternative should be postponed until Puerto Rico reaches a level of per capita income closer to that of the United States. This thesis is based on the belief that the transition to statehood will be easier when Puerto Rico and the US reach economic parity. From an economic point of view, such an assertion would only make sense if Puerto Rico had in fact been closing the income gap with the States of the Union. If Puerto Rico's per capita income is in fact not closing the gap and instead is actually lagging behind, then the Puerto Rican economy will distance itself further from the US, and the preconditions for statehood will never be achieved.

II. The Bottom Line

The evidence provided in this paper clearly indicates that for the last 20 years Puerto Rico, in fact, has been diverging from the States. It has become relatively poorer than it was in the seventies. In particular, using per-capita personal income, Puerto Rico has fallen 7.6% behind the poorest states, 3.0% behind the middle income states, and 3.9% behind the richest states. This evidence indicates that although the poorest US states are catching up to the richest US states, Puerto Rico is lagging behind all of them.

In contrast, Latin American economies from both South and Central America have been able to reduce their gap with Puerto Rico in terms of per capita GNP. Today, countries like Chile and the Dominican Republic are closer to Puerto Rico than Puerto Rico itself is to the United States. Overall, these Central American economies are today 10% richer in comparison to Puerto Rico than they were in 1970, and importantly, half of this increase in relative income occurred during the nineties.

While in 1970 Puerto Rico's per capita GNP was 2.25 times higher than Chile's, by 1998 both economies had reached almost the same level of per capita GNP. In the last 30 years, Puerto Rico's per capita GNP fell 24% in comparison to South America. Consequently, the Puerto Rican economy today more closely resembles a rich South American economy than it resembles one of the 50 United States. Puerto Rico looks more like Venezuela than Mississippi.

III. Overview and Main Conclusions

Until recently, the objective analysis of the economic performance of Puerto Rico has received scant attention. Special factors have aroused the current awareness, including constitutional questions, unrestricted movement to the mainland, the federal minimum wage requirement, federal transfer payments and tailored tax incentives for investment. In light of these factors, there was a need to review analytically the general impression that Puerto Rico's economy had been performing well.[1]

Now it seems clear that post 1972 – 1974 the economic development strategy of Puerto Rico had some fundamental flaws that jeopardized its prospect for long-run sustainable growth. For example, some studies have emphasized the importance of specific aspects such as the minimum wage or the migration, while some scholars have argued that the foreign capital-oriented development strategy of Puerto Rico has propitiated a disarticulated structure of production.[2]

Regardless of the forces that drive Puerto Rico’s economic growth, we need to address a basic question: What has been the true relative economic performance of Puerto Rico? On the one hand, Baumol and Wolff (1997) pointed out that during the postwar period “...Puerto Rico experienced one of the world’s most rapid growth rates in both GDP per capita and labor productivity. ...a performance that puts it into the same league as Japan, South Korea, Taiwan and Singapore.” On the other hand, Lefort (1997) argued that although during the first half of the postwar period Puerto Rico outperformed many less developed economies, when compared to the poorest US States its performance was inadequate. He showed that by 1940 Puerto Rico had 45% of Mississippi’s per-capita income. By 1980 that figure reached just 49%, indicating that in 40 years Puerto Rico had barely reduced its income gap with Mississippi, the poorest US state. The conclusion of that study was that the speed of convergence shown by Puerto Rico implied a much lower steady-state level of per capita income than the States of the Union, and therefore the income gap would never close, and might actually widen. In fact, this paper will show that by 1997 Puerto Rico had only 45% of Mississippi’s income, implying an 8.5% decline from 1980 – 1997 and a return to relatively the same gap as in 1940.

The comparison between Puerto Rico and Latin American, particularly Caribbean economies, has received analytic focus. The reasons are both obvious and spurious. Although Puerto Rico is not an independent Latin American country, it has a clear Hispanic origin, culture and language, and therefore shares many of the institutional characteristics of the Latin American and Caribbean economies.

[1] See Baumol and Wolf (1997) and Hausman (1996).

The United States' influence over Puerto Rico makes the island a natural venue for an experiment in determining the effects of associating a small poor economy with a large rich one. The evidence indicates that in terms of economic development this association has been fortunate for Puerto Rico during the first 25 years of the postwar period. After the 1973 oil crisis, however, Puerto Rico's economic growth slowed, and the income level of Puerto Ricans seemed to settle somewhere between a poor State of the Union and a rich Latin American economy. It is poorer than the former but richer than the latter.

The evidence provided in this paper clearly indicates that in the last 20 years Puerto Rico has been, in fact, diverging from the States, and becoming relatively poorer than in the seventies. In particular, using per-capita personal income, Puerto Rico has fallen 7.6% behind the poorest states, 3.0% behind the middle income states, and 3.9% behind the richest states. This evidence indicates that, although the poorest US states are catching up to the richest US states, Puerto Rico is lagging behind all of them.

Comparing Puerto Rico to the US as a whole, Puerto Rico's per-capita GNP has been lagging behind systematically, even during the nineties. In contrast, Latin American economies from both South and Central America have been able to reduce their gap with Puerto Rico in terms of per capita GNP. Countries like Chile and the Dominican Republic are today closer to Puerto Rico than Puerto Rico itself is to the United States.

IV. Methodology and Data

In order to evaluate the economic performance of Puerto Rico during the last 20 years, I construct several measures of relative per-capita income. The per-capita income of an economy provides an approximated measure of the living standards of their citizens, and therefore it is an adequate indicator of overall economic performance. In this study, I am interested in comparing the economic performance of Puerto Rico to that of other economies.

I do so by analyzing the evolution of the ratio between the per-capita incomes of Puerto Rico and different economies. At a specific point in time, this ratio indicates the relative

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[2] Among the first group, see Krueger (1995) and Santiago (1986). For the development

position in per-capita income between two economies. For instance, a ratio of 0.5 would indicate that Puerto Rico has half the per-capita income of the other economy. Changes over time in this ratio indicate that per-capita income is growing at a different rate in those economies. If, for example, after 10 years the ratio were 0.4, it would indicate that Puerto Rico's per-capita income grew at a rate 2.2 percentage points lower than the other economy, a clear sign of relative under performance.

I make two sets of comparisons in this paper. First, I compare the performance of Puerto Rico with that of the 50 states and the District of Columbia. For that purpose, I use annual personal income per capita in current dollars obtained from the Statistical Abstract of the United States. The data cover the period 1980 to 1997.

Secondly, I look at the relative performance of Puerto Rico as compared to a set of Latin American economies and to the US. In this case, I use annual real GNP per capita obtained from the Penn World Tables for the period 1970 to 1992. I extend those series up to 1998 using Inter-American Development Bank data.

V. Main Results

PUERTO RICO AND THE 50 STATES OF THE UNION

How well has Puerto Rico performed in comparison to the States of the Union? Is Puerto Rico getting any closer to the States?

The rationale for these questions arises from the strategic position of Puerto Rico in relation to the United States. Puerto Rico is linked politically and economically to the United States. Economically it is virtually integrated and close, but not equal. Politically there is a vast difference. From the point of view of neoclassical growth theory, the question is whether Puerto Rico shares enough of the determinants of the long run level of per capita income, to be considered equal.[3] In that sense, equality means that eventually

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point of view see Weisskoff and Wolff (1975), and Dietz (1982) and (1986).

[3] See Lefort (1997).

the per capita income level attained by Puerto Ricans is going to reach a level similar to that of mainland Americans.

Determining Puerto Rico's potential to catch up to the States of the Union has implications for both economic policy and political structuring. On the one hand, it implies that the association with a wealthy partner is a safe bet. Academic work on the economic development of Puerto Rico has evaluated the effects of migration to the mainland, federal minimum wage, federal transfer payments and tax incentives, to name a few. If Puerto Rico were catching up to the States, one could argue that the mix of economic policies and incentives attained under Commonwealth status was acceptable. On the other hand, if Puerto Rico is not catching up to the United States, the claim that Puerto Rico must grow closer to the States before Statehood is a possibility, should be reassessed and is, in fact, a fallacy.

The evidence up to now indicates that although the rate of growth of the Puerto Rican economy was relatively high during an important part of the post-war period, it has not been rapid enough to close the income gap with the States. Lefort (1997) showed that while by 1940 Puerto Rico had 45% of Mississippi's per-capita income, by 1980 that figure reached just 49%, indicating that in 40 years Puerto Rico had barely reduced its income gap with the poorest US state. The conclusion of that study was that the speed of convergence shown by Puerto Rico implied a much lower steady-state level of per-capita income than the States of the Union, and therefore, the income gap would not be closed.

In this paper, I look at data that are more recent in order to answer the same question. The evidence provided in this paper clearly indicates that in the last 20 years Puerto Rico has been, in fact, diverging from the States and becoming relatively poorer than in the seventies. Table 1 presents some striking results of this phenomenon. The table shows the ratio of per capita personal income between Puerto Rico and each State of the Union for 1980, 1990 and 1997.

TABLE 1

Performance of Puerto Rico as compared to the States of the Union

(Ratio of per capita personal income)

Panel A: Summary

	Income Ratio			Rate of Change			Income Ratio		Rate of Change
	1980	1990	1997	1980-1990	1980-1997		1990	1997	1990-1997
Low	0.43	0.39	0.39	-9.1%	-7.6%	Low	0.40	0.40	1.4%
Middle	0.35	0.33	0.34	-5.9%	-3.0%	Middle	0.33	0.34	2.3%
High	0.30	0.28	0.29	-8.5%	-3.9%	High	0.27	0.29	5.4%
Overall	0.36	0.33	0.34	-7.8%	-4.8%	Overall	0.33	0.34	3.0%

Panel B: Low Income States

Sorted by per capita income in 1980	Income Ratio			Rate of Change		Sorted by per capita income in 1990	Income Ratio		Rate of Change
	1980	1990	1997	1980-1990	1980-1997		1990	1997	1990-1997
MS	0.49	0.47	0.45	-5.1%	-8.5%	MS	0.47	0.45	-3.4%
AR	0.46	0.42	0.42	-7.5%	-7.9%	AR	0.42	0.42	-0.5%
SC	0.45	0.39	0.40	-14.7%	-11.5%	WV	0.42	0.44	3.9%
AL	0.44	0.39	0.40	-12.2%	-10.7%	UT	0.42	0.40	-3.4%
ND	0.44	0.39	0.41	-11.6%	-7.1%	NM	0.41	0.42	2.7%
SD	0.43	0.38	0.39	-12.5%	-12.1%	LA	0.40	0.40	-0.7%
UT	0.43	0.42	0.40	-1.8%	-5.1%	MT	0.39	0.41	4.2%
WV	0.42	0.42	0.44	-0.9%	3.0%	KY	0.39	0.40	1.5%
NC	0.42	0.36	0.35	-16.7%	-17.6%	AL	0.39	0.40	1.4%
KY	0.42	0.39	0.40	-6.6%	-5.1%	ND	0.39	0.41	4.5%
TN	0.42	0.36	0.36	-14.0%	-15.5%	ID	0.39	0.40	4.1%
NM	0.41	0.41	0.42	-0.8%	1.9%	SC	0.39	0.40	3.3%
ME	0.41	0.35	0.37	-17.2%	-9.4%	SD	0.38	0.39	0.4%
GA	0.41	0.34	0.34	-17.0%	-16.6%	OK	0.38	0.40	5.4%
ID	0.40	0.39	0.40	-2.8%	1.3%	TN	0.36	0.36	-1.5%
VT	0.40	0.34	0.35	-16.4%	-11.4%	AZ	0.36	0.37	3.2%
LA	0.39	0.40	0.40	3.4%	2.7%	NC	0.36	0.35	-0.9%

Panel C: Middle Income States

Sorted by per capita income in 1980	Income Ratio			Rate of Change		Sorted by per capita income in 1990	Income Ratio		Rate of Change
	1980	1990	1997	1980-1990	1980-1997		1990	1997	1990-1997
MT	0.39	0.39	0.41	2.3%	6.5%	IA	0.35	0.36	1.6%
NE	0.37	0.34	0.35	-9.7%	-7.4%	ME	0.35	0.37	7.8%
IN	0.37	0.35	0.35	-5.6%	-4.5%	IN	0.35	0.35	1.1%
AZ	0.36	0.36	0.37	-2.0%	1.3%	WY	0.35	0.36	5.4%
MO	0.36	0.34	0.34	-7.9%	-5.7%	TX	0.34	0.35	1.6%
OK	0.36	0.38	0.40	5.4%	10.8%	GA	0.34	0.34	0.4%
IA	0.36	0.35	0.36	-2.1%	-0.5%	OR	0.34	0.34	-0.7%
RI	0.35	0.30	0.32	-15.6%	-9.4%	NE	0.34	0.35	2.4%
OH	0.34	0.33	0.33	-5.1%	-3.0%	MO	0.34	0.34	2.2%
WI	0.34	0.34	0.34	-2.7%	-2.2%	VT	0.34	0.35	5.0%
NH	0.34	0.29	0.29	-18.3%	-15.6%	WI	0.34	0.34	0.5%
TX	0.34	0.34	0.35	0.1%	1.7%	KS	0.33	0.34	2.3%
KS	0.34	0.33	0.34	-3.5%	-1.2%	OH	0.33	0.33	2.1%
VA	0.34	0.30	0.31	-14.5%	-9.3%	MI	0.32	0.32	1.7%
FL	0.34	0.31	0.33	-10.0%	-4.7%	FL	0.31	0.33	5.3%
OR	0.34	0.34	0.34	-0.4%	-1.1%	CO	0.31	0.31	-0.9%
PA	0.34	0.31	0.32	-10.4%	-7.1%	MN	0.31	0.31	0.4%

Panel D: High Income States (1980 and 1990)

Sorted by per capita income in 1980	Income Ratio			Rate of Change		Sorted by per capita income in 1990	Income Ratio		Rate of Change
	1980	1990	1997	1980-1990	1980-1997		1990	1997	1990-1997
MN	0.34	0.31	0.31	-9.0%	-8.6%	PA	0.31	0.32	3.3%
MI	0.33	0.32	0.32	-4.2%	-2.5%	WA	0.30	0.31	2.0%
DE	0.32	0.27	0.28	-15.7%	-12.2%	RI	0.30	0.32	6.1%
CO	0.32	0.31	0.31	-3.1%	-3.9%	VA	0.30	0.31	5.2%
MA	0.32	0.26	0.26	-21.3%	-18.9%	NV	0.29	0.31	4.8%
WA	0.32	0.30	0.31	-4.3%	-2.3%	IL	0.29	0.29	1.1%
HI	0.31	0.28	0.32	-12.5%	1.5%	NH	0.29	0.29	2.8%
MD	0.31	0.26	0.29	-16.7%	-9.1%	AK	0.28	0.33	14.6%
IL	0.31	0.29	0.29	-6.7%	-5.6%	CA	0.28	0.31	11.1%
NY	0.31	0.26	0.27	-18.4%	-14.0%	HI	0.28	0.32	14.0%
WY	0.30	0.35	0.36	15.0%	20.3%	DE	0.27	0.28	3.5%
NV	0.29	0.29	0.31	0.1%	4.9%	MD	0.26	0.29	7.6%
NJ	0.29	0.24	0.25	-19.4%	-13.6%	NY	0.26	0.27	4.4%
CA	0.29	0.28	0.31	-3.7%	7.5%	MA	0.26	0.26	2.3%
CT	0.28	0.22	0.23	-21.0%	-19.6%	NJ	0.24	0.25	5.8%
DC	0.27	0.23	0.23	-17.2%	-17.7%	DC	0.23	0.23	-0.5%
AK	0.25	0.28	0.33	13.7%	28.3%	CT	0.22	0.23	1.5%

In order to measure the relative performance of Puerto Rico at approximately 10-year intervals, the observations are sorted by income starting from the poorest state in the years 1980 and 1990. The left side of the table measures the change in the per capita income ratio with respect to Puerto Rico for each State for the periods 1980-90 and 1980-97. The right hand side of the table analyzes the sub-period 1990 - 1997.

The left side of the table indicates, for instance, that in 1980 Puerto Rico had 49% of Mississippi's per capita personal income. By 1997, Puerto Rico had only 45% of Mississippi's income implying an 8.5% relative decline. In other words, in 1997 Puerto Rico had fallen 8.5% further behind the poorest state. This result is not the exception but the rule. Arranging the 50 States and the District of Columbia in three groups of 17 easily demonstrates the decline. The first group includes the poorest states in 1980, the second the middle income states and the third the richest. Compared to these three groups during the eighties and nineties, Puerto Rico has fallen 7.6% behind the poorest states, 3.0% behind the middle income states, and 3.9% behind the richest states. This evidence indicates that although the poorest US states are catching up to the richest US states, Puerto Rico is lagging behind all of them.

Table 1 shows the same kind of results for the sub-periods 1980-90 and 1990-1997. The results show that the under performance of Puerto Rico was more severe during the first decade, with an overall fall in relative per-capita income of almost 8% (more than 9% compared to poor States). During the nineties, Puerto Rico kept the pace with the poorest States and tended to outperform the richest. However, the overall gain was slim. Puerto Rico increased its relative income by 2.8% in 8 years, representing an annual rate of growth 0.3 percentage points higher than that of an average US State.

Table 2 provides some examples of the relative performance of Puerto Rico as compared to a selection of low, middle and high income States. Figure 1 plots the evolution of the personal income per capita ratios for those States. Down slopping plots indicate that Puerto Rico is falling behind in terms of income. Most plots show a similar pattern characterized by a tendency to a reduction in Puerto Rico's relative income, with a slight reversion during the late eighties.

TABLE 2

Performance of Puerto Rico relative to the States of the Union
(Personal Income per capita ratio)

Panel A: Low Income U.S. States

	Mississippi		Arkansas		S. Carolina		Alabama		Average
	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	Index 1980=100
1980	49.2	100	45.7	100	44.6	100	44.1	100	100
1985	44.7	91	39.1	86	38.0	85	38.3	87	87
1990	46.8	95	42.4	93	38.5	86	39.1	89	91
1995	43.5	88	40.2	88	38.2	86	37.8	86	87
1997	45.2	92	42.2	92	39.8	89	39.6	90	91

Panel B: Middle Income U.S. States

	Indiana		Wisconsin		Missouri		Oregon		Average
	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	Index 1980=100
1980	36.6	100	34.5	100	36.4	100	34.2	100	100
1985	33.2	91	31.4	91	31.0	85	32.6	95	91
1990	34.6	95	33.6	97	33.7	92	34.1	100	96
1995	33.6	92	32.5	94	33.2	91	33.3	97	94
1997	35.0	96	33.7	98	34.4	94	33.9	99	97

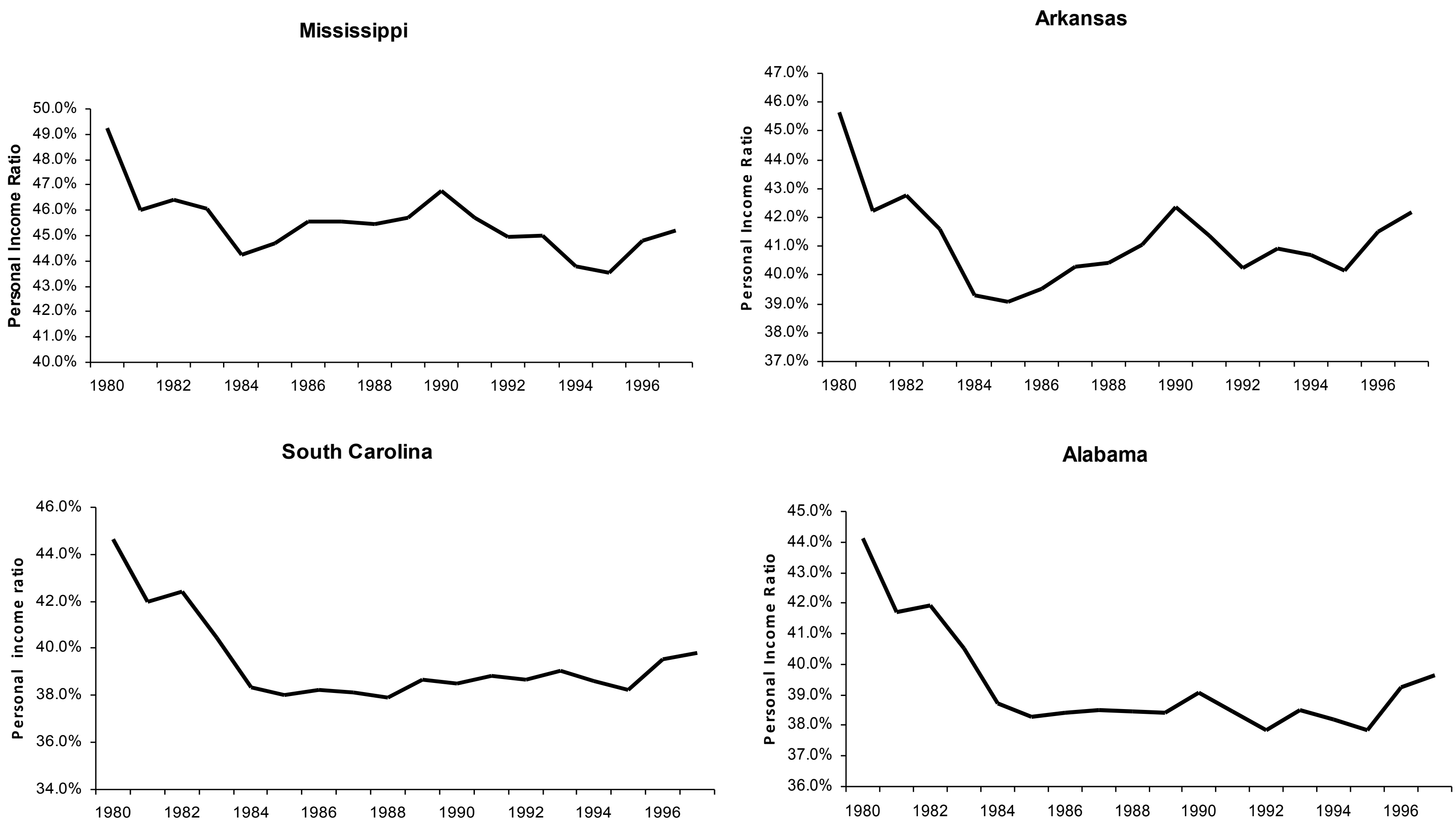
Panel C: High Income U.S. States

	Connecticut		Maryland		Colorado		Hawaii		Average
	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	%	Index 1980=100	Index 1980=100
1980	27.7	100	31.2	100	31.8	100	31.3	100	100
1985	23.0	83	25.9	83	28.0	88	29.4	94	87
1990	22.4	81	26.4	85	30.8	97	27.6	88	88
1995	22.4	81	27.4	88	29.7	94	29.0	93	89
1997	22.8	82	28.5	91	30.5	96	31.7	101	93

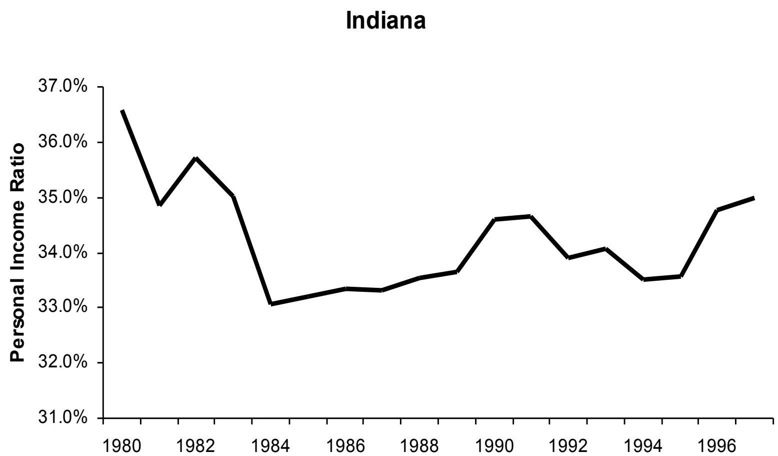
FIGURE 1

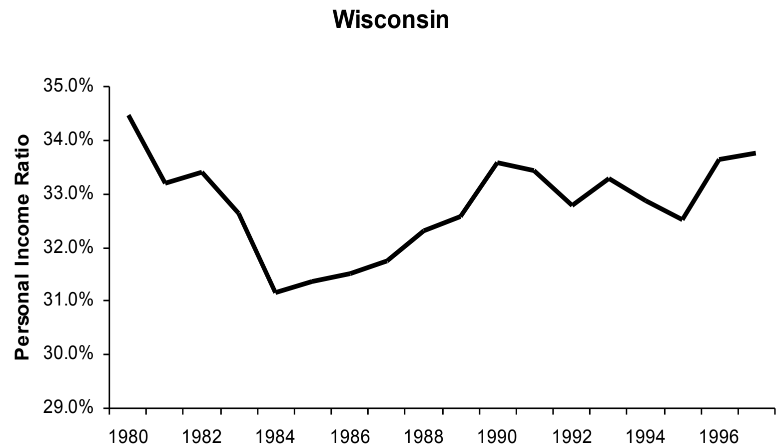
Personal Income Per Capita Ratios

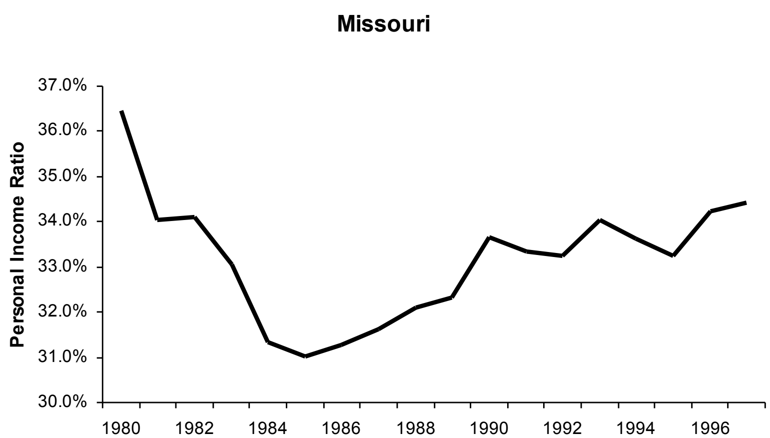
Panel A: Performance of Puerto Rico relative to selected low income US states

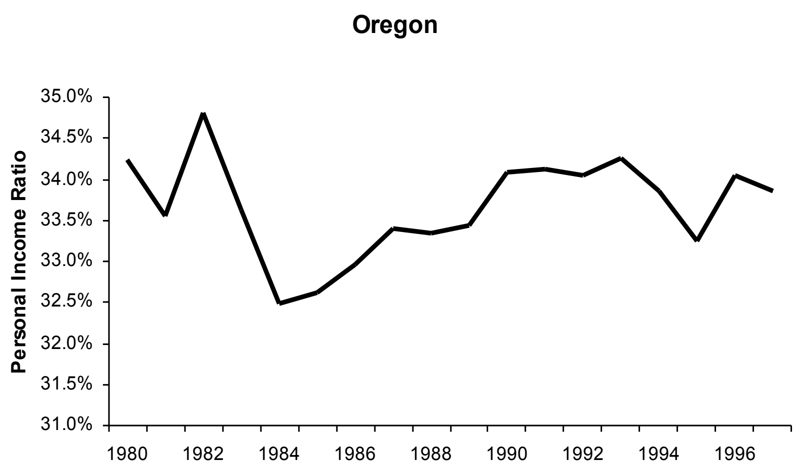


Panel B: Performance of Puerto Rico relative to selected middle income U.S. states

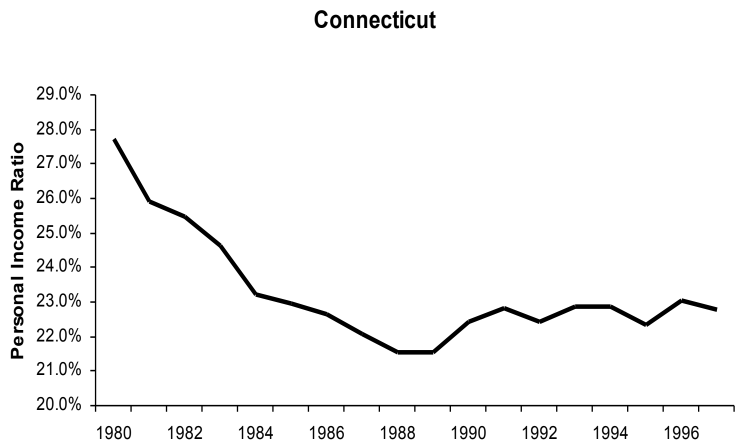


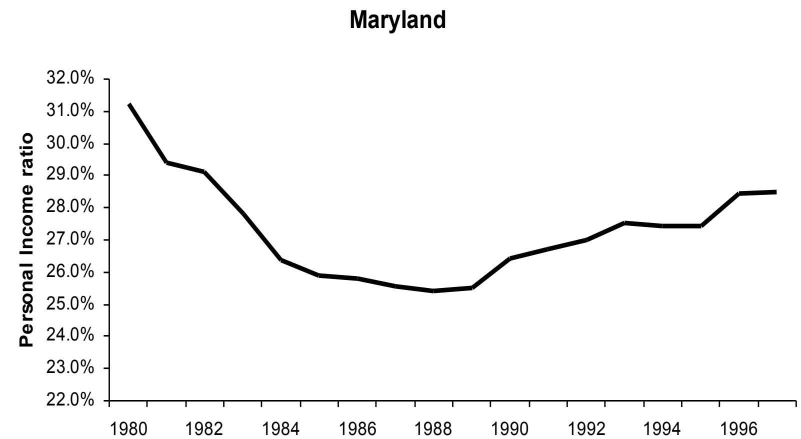


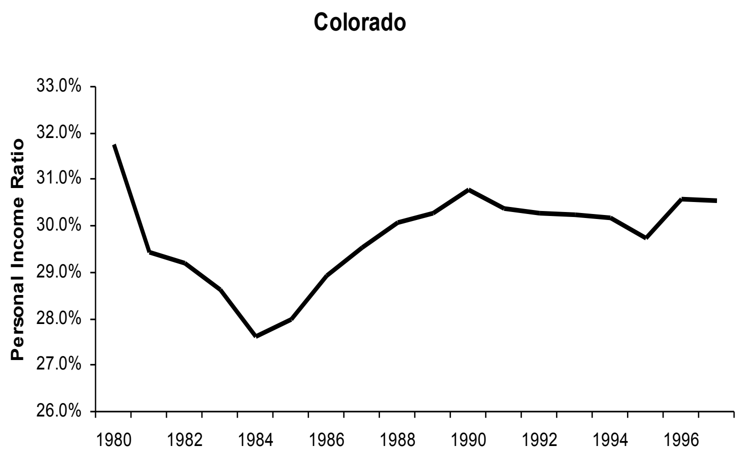


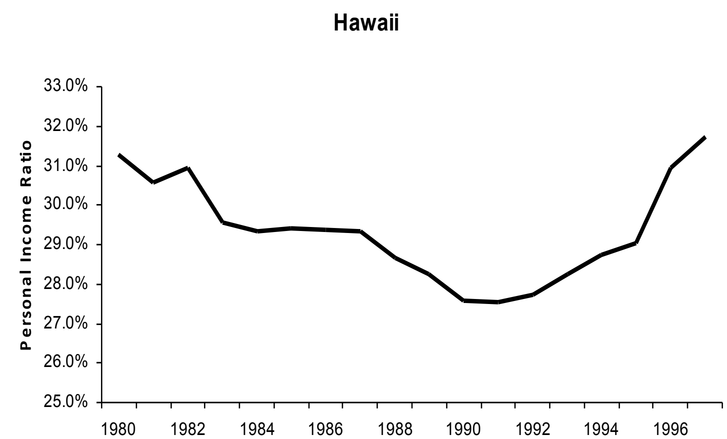


Panel C: Performance of Puerto Rico relative to selected high income U.S. states







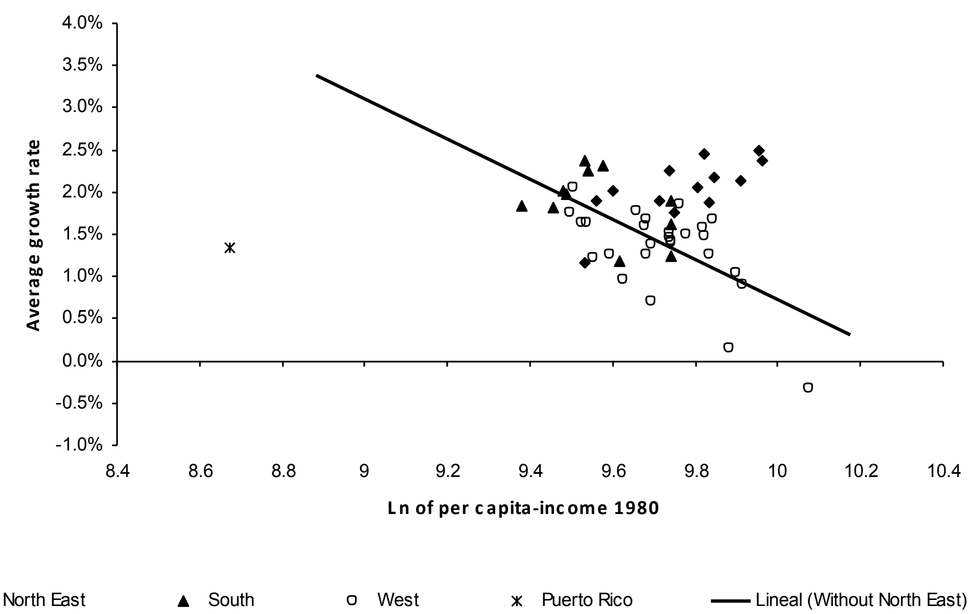


Finally, Figure 2 presents recent evidence on the lack of convergence of Puerto Rico to the US States.[4] The different panels of Figure 2 plot on the horizontal axis the level of per-capita income of the different states and Puerto Rico at the beginning of the eighties and nineties. The vertical axis measures the average rate of growth. The figure helps to clarify several aspects of Puerto Rico's economic performance. First, it shows that Puerto Rico has a much lower level of per capita income than the States. Secondly, it shows that despite its low level of income, the rate of growth of Puerto Rico's per capita income has been average when compared to the States. Thirdly, the figure also plots a line indicating the relationship between income level and growth for the States of the Union (excluding the North East). The line shows that poorer states tend to grow faster than richer states, and that Puerto Rico does not follow that pattern. This conclusion is also true for the sub-periods 1980-90 and 1990-97.

FIGURE 2

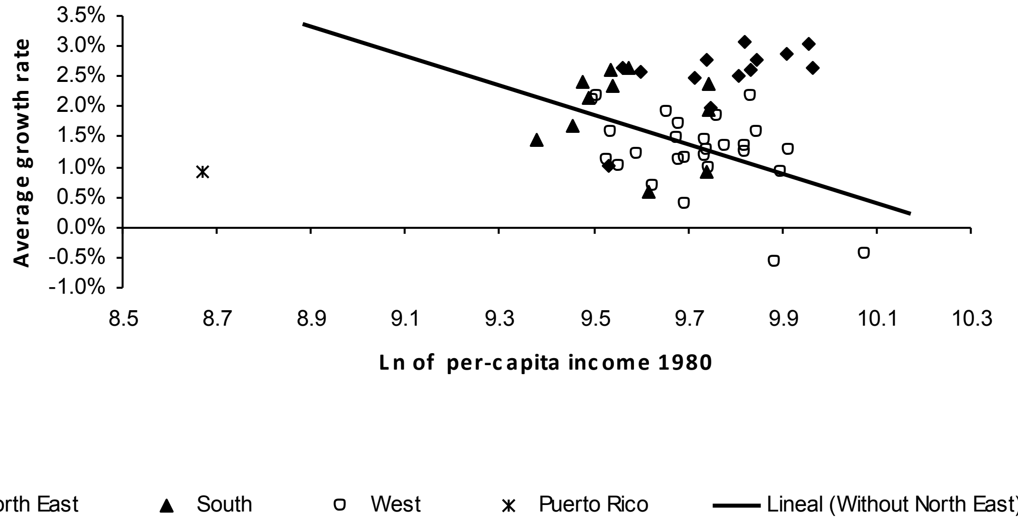
Per Capita Income Growth Across US States

Panel A: 1980-1997

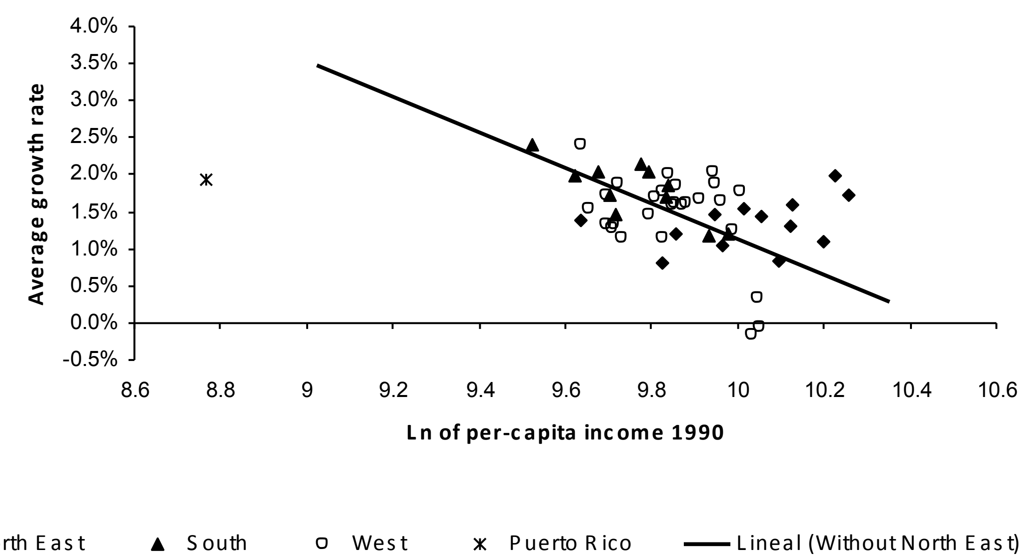


4 For a discussion of the convergence hypothesis and its implications see Caselli, Esquivel and Lefort (1996), and Lefort (1997).

Panel B: 1980-1990



Panel C: 1990-1997



PUERTO RICO AND LATIN AMERICA AND THE CARIBBEAN

We have already seen that Puerto Rico has been lagging behind the States of the Union in terms of per capita income during the eighties and the nineties. So, where is Puerto Rico going?

The obvious alternative benchmark for comparing the economic performance of Puerto Rico is a collection of Latin American and Caribbean Basin economies. In this subsection, I perform this comparison in terms of the evolution of real GNP per capita.

Table 3 presents paired comparisons of real GNP per capita between Puerto Rico and a series of Latin American and Caribbean countries. Panel A considers a sample of the main South American countries. Panel B considers Central America economies, and Panel C, Mexico and the US. The different panels of Figure 3 show the evolution of relative per-capita GNP of Puerto Rico versus the different economies considered in Table 3.

TABLE 3

Relative performance of Puerto Rico
(Real GNP per capita ratio)

Panel A: South America

	Brazil		**Chile**		**Colombia**		**Peru**		**Average**
	%	Index 1970=100	%	Index 1970=100	%	Index 1970=100	%	Index 1970=100	Index 1970=100
1970	238.2	100	225.4	100	271.1	100	210.6	100	100
1975	170.8	72	225.5	100	237.4	88	185.8	88	87
1980	140.6	59	182.5	81	197.3	73	207.6	99	78
1985	145.7	61	178.8	79	193.3	71	228.8	109	80
1990	158.8	67	151.0	67	195.7	72	294.7	140	86
1998	158.5	67	104.3	46	181.6	67	258.9	123	76

Panel B: Central America

	Costa Rica		D Republic		Guatemala		El Salvador		Average
	%	Index 1970=100	%	Index 1970=100	%	Index 1970=100	%	Index 1970=100	Index 1970=100
1970	198.3	100	371.3	100	285.2	100	315.7	100	100
1975	180.9	91	297.2	80	264.1	93	290.1	92	89
1980	164.1	83	254.7	69	225.6	79	294.3	93	81
1985	179.8	91	279.1	75	266.6	93	305.1	97	89
1990	183.0	92	298.5	80	296.0	104	341.2	108	96
1998	188.5	95	252.9	68	288.6	101	311.1	99	91

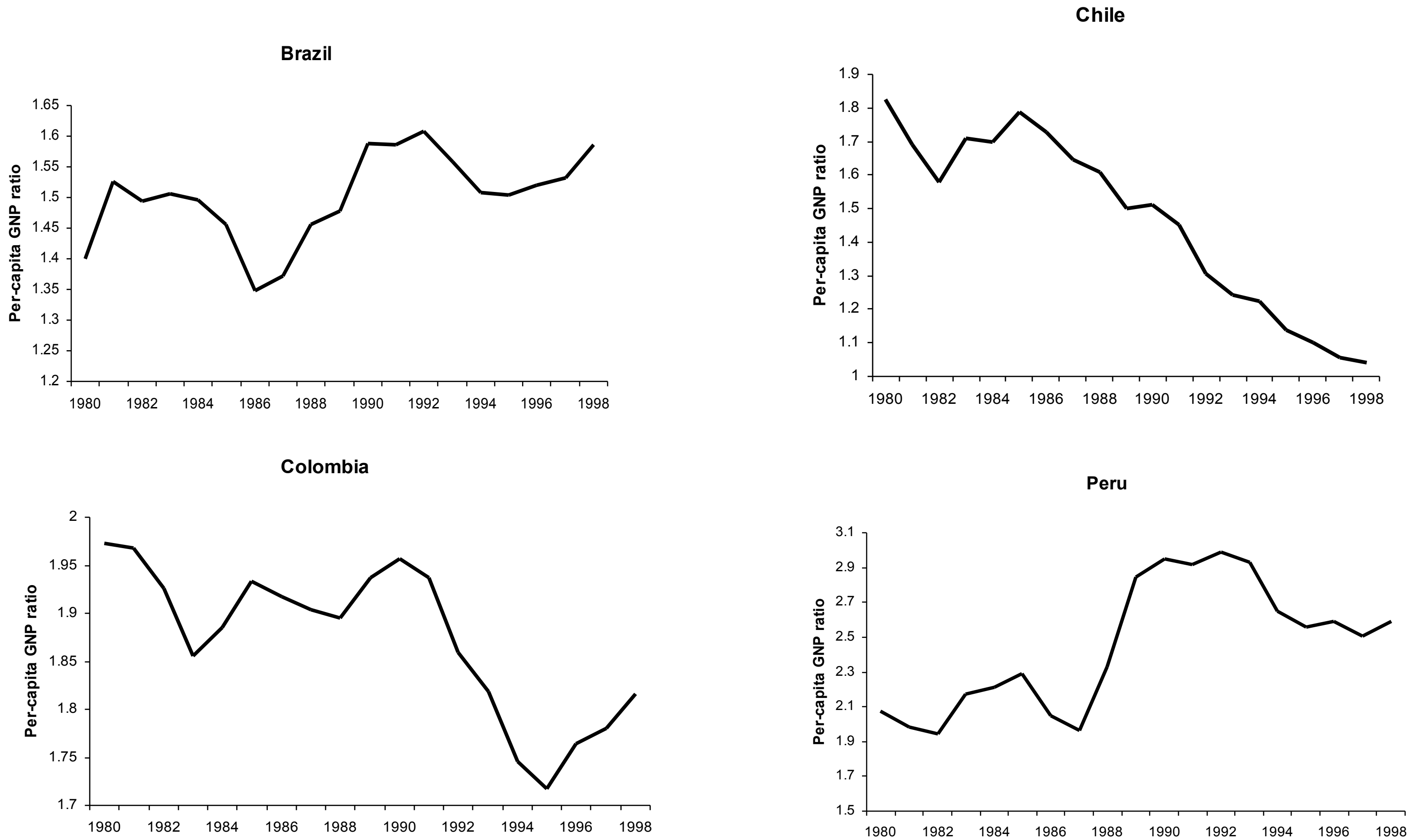
Panel C: North America

	Mexico		USA		Average
	%	Index 1970=100	%	Index 1970=100	Index 1970=100
1970	143.1	100	43.3	100	100
1975	119.9	84	42.0	97	90
1980	98.4	69	37.2	86	77
1985	102.0	71	32.9	76	74
1990	108.1	76	33.7	78	77
1998	105.3	74	32.7	75	75

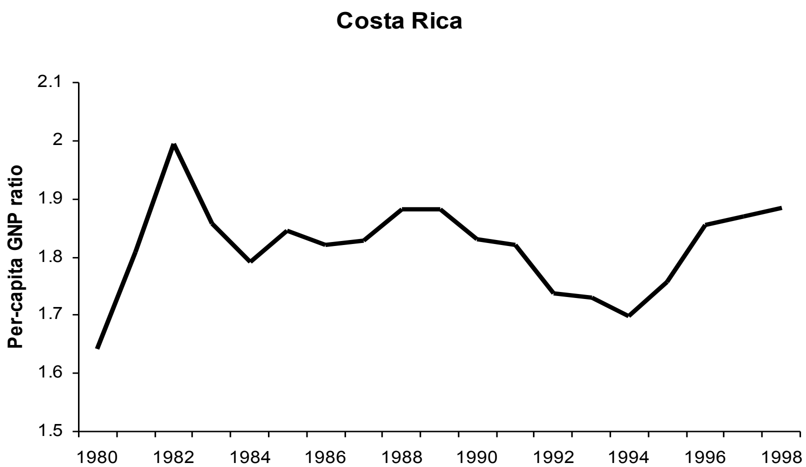
FIGURE 3

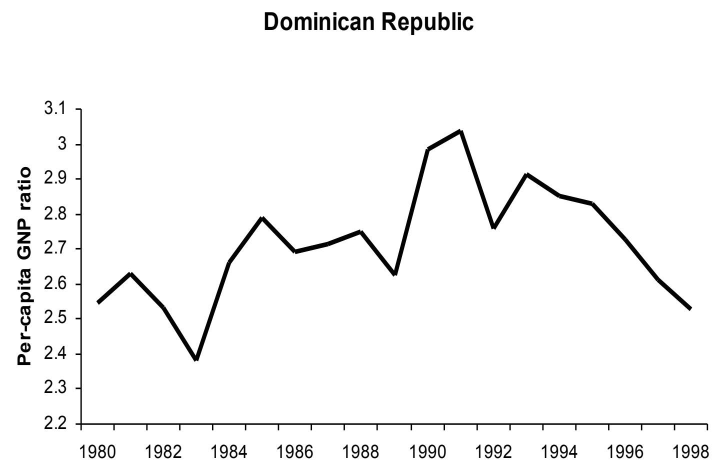
Performance of Puerto Rico relative to selected American countries

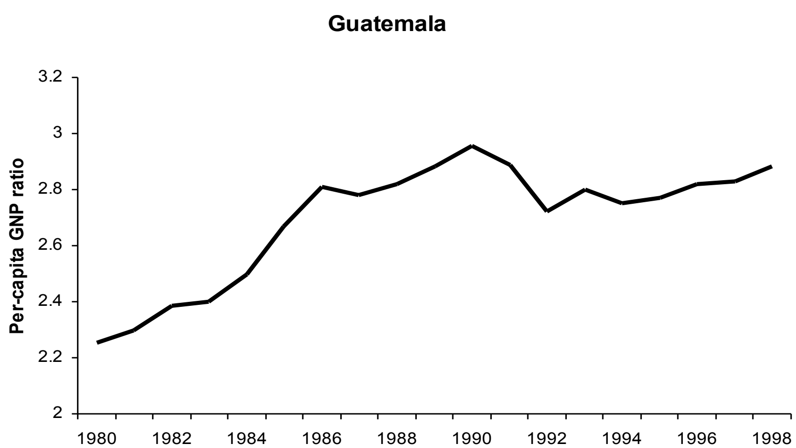
Panel A: South America

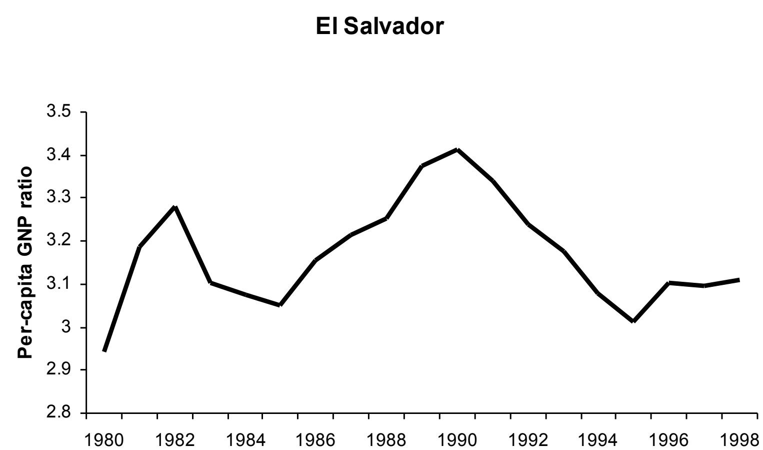


Panel B: Central America

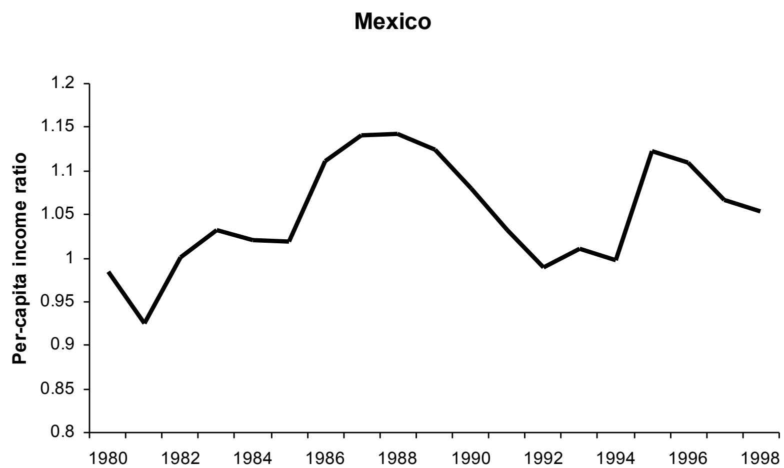


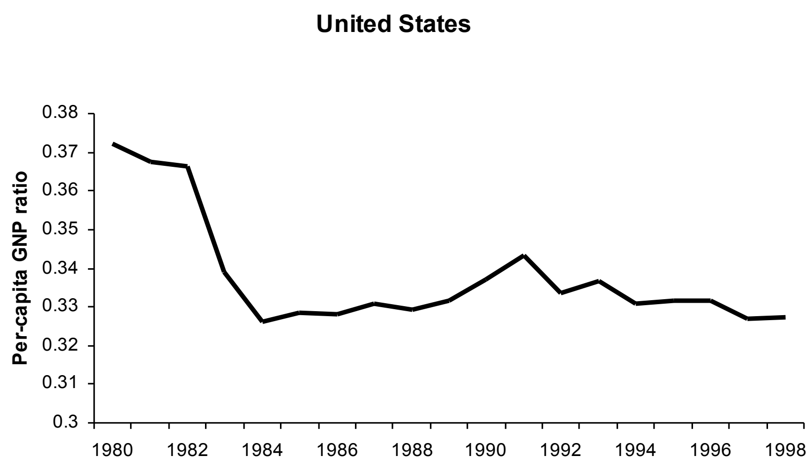






Panel C: North America





For each country, the table shows the ratio between Puerto Rico's real GNP per capita and the correspondent country's real GNP per capita. This ratio is reported, in percentages, every five years from 1970 – 1990, and for 1998. A number above 100% means that in that year Puerto Rico had a real GNP per capita larger than that of the reference country. In addition to the percentage ratio between per capita GNPs, the table presents an index of that ratio normalized to 100 in 1970. This index helps to identify the percentage variation in the GNP ratios.

It is easy to see that in 1970 Puerto Rico had a much larger income per capita than any of the four South American countries considered. In fact, it had more than twice the per capita GNP of Brazil, Chile and Peru, and almost three times the per capita GNP of Colombia. From 1970 to 1998, Brazil, Chile and Colombia systematically reduced this ratio. Puerto Rico's per capita GNP has grown faster only than that of Peru. Leaving aside the terrible performance of Peru's economy, the other three South American economies performed much better than Puerto Rico. The last column in the panel shows the average value for the performance index. The figures indicate that Puerto Rico reduced its relative per-capita GNP to 22% between 1970 and 1980. Between 1980 and 1990, because of the debt crisis suffered by South American economies, it increased it by 9%, and between 1990 and 1998 it reduced it by 12%. All together, Puerto Rico's economy reduced its per capita GNP by 24% with respect to South America in the last 30 years. Consequently, the Puerto Rican economy is, as today, much more similar to a relatively rich South American economy than to a poor US State.

A comparison to the successful Chilean case highlights this point. While in 1970 Puerto Rico's per-capita GNP was 2.25 times higher than Chile's, by 1998 both economies have reached almost the same level of per-capita GNP.

Panel B presents the same calculations for a sample of four Central American economies: Costa Rica, Dominican Republic, Guatemala and El Salvador. In 1970, Puerto Rico had a per-capita GNP almost 4 times the one of Dominican Republic, more than 3 times the one of El Salvador, almost 3 times the one of Guatemala, and twice the per-capita GNP of Costa Rica. With the exception of Guatemala, all of these countries outperformed Puerto Rico in the last 30 years. The time pattern is similar to the one of South American economies, where Puerto Rico did worse during the seventies and nineties, and better during the eighties. Overall, these Central American economies are today 10% richer in comparison to Puerto Rico than in 1970. Half of the increase in their relative income occurred during the nineties.

The last panel of Table 3 compares Puerto Rico to Mexico and the US in terms of per-capita GNP. The calculations show that Puerto Ricans have steadily becoming relatively poorer than Mexicans and Americans almost year after year since 1970. In fact, by 1998 the relative per-capita GNP of Puerto Rico was 75% of 1970's. Even during the nineties Puerto Rico grew less than the US, reducing its relative per capita GNP from 34% to 32%. This figure is in contrast with the previous result shown using per capita personal income. The reason for this difference is that per capita GNP does not consider federal transfers received by Puerto Ricans in the form of food stamps, for instance. In this sense, per-capita GNP is a better measure of Puerto Rico's own economic performance. Under this measure, the evidence indicates that Puerto Rico had a terrible decade during the seventies, reducing its relative product from 43.3% to 37.2% (almost 15%). During the eighties its relative GNP was reduced an additional 9% (from 37.2% to 33.7%), and during the nineties (until 1998) 3% more (from 33.7% to 32.7%).

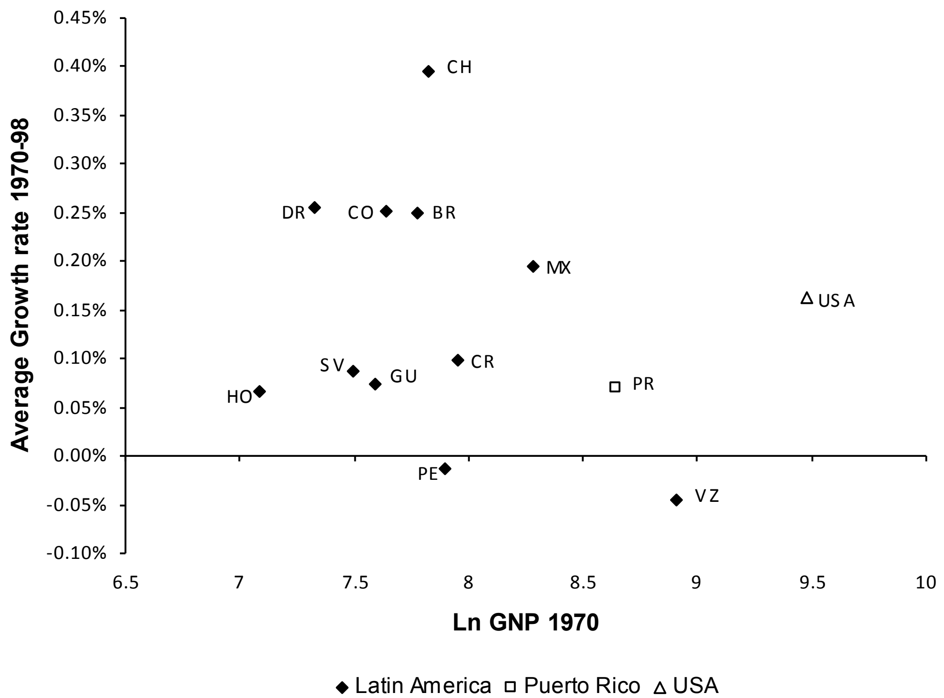
In summary, the evidence indicates that, after 1970, Puerto Rico has not been able to catch up with the United Sates. In fact, Puerto Rico's per capita GNP has been lagging systematically behind with respect to the US, in a tendency that can be observed even during the nineties. In contrast, Latin American economies from both South and Central America have been able to reduce their distance in terms of GNP per capita to Puerto Rico. Today, countries like Chile and the Dominican Republic are closer to Puerto Rico than Puerto Rico itself is to the United States.

To illustrate this point, Figure 4 plots per capita GNP, for Puerto Rico and a list of American economies, against the average rate of growth of per capita GNP since 1970 to 1998. In panel A, per capita GNP is measured as of 1970, while panel B considers GNP as of 1998. A comparison between both figures clearly illustrates the "move" of Puerto Rico away from the US and toward Latin American economies because of its relatively low growth rate during the period under study. Puerto Rico looks more like Venezuela than Mississippi.

FIGURE 4

Per capita GNP growth across American economies

Panel A: Per capita GNP in 1970



Panel B: Per capita GNP in 1998

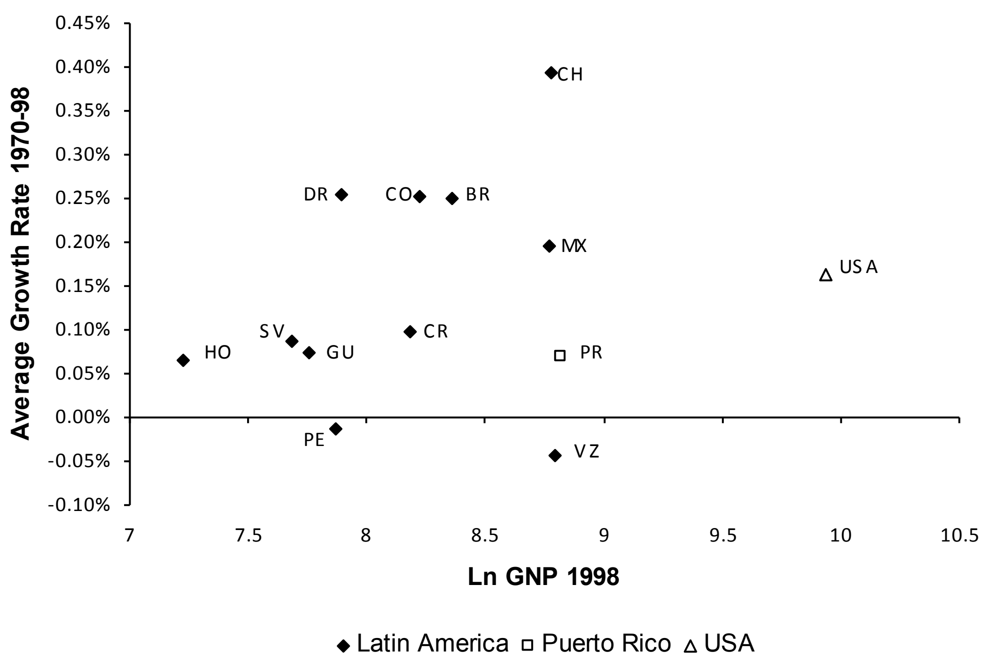
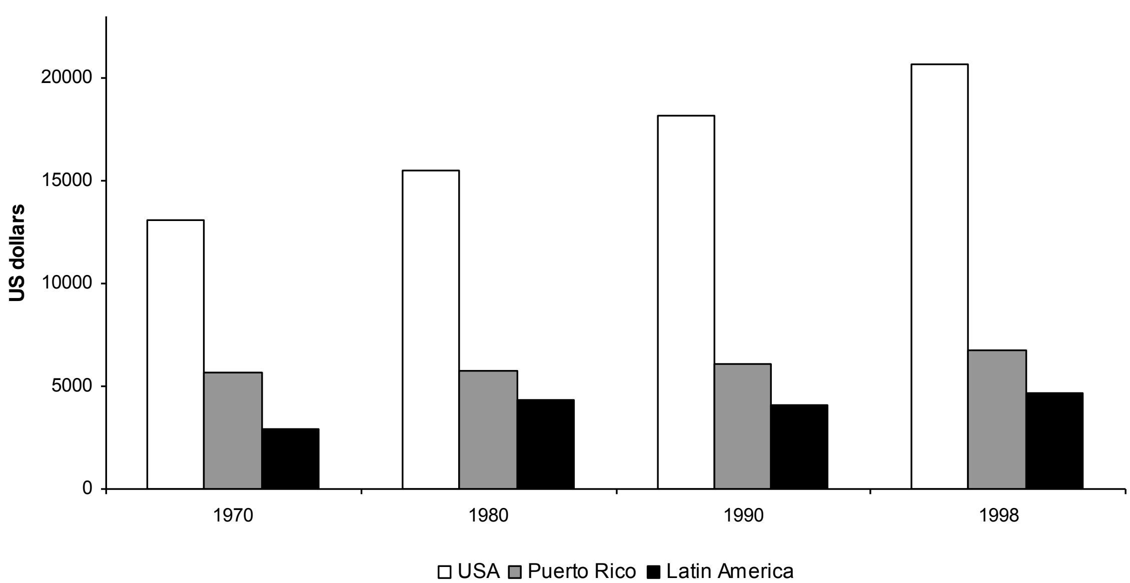


Figure 5 helps to illustrate the same point. The figure plots per-capita real GNP of Puerto Rico, the US and Latin America for 1970, 1980, 1990 and 1998. Real per capita GNP for Latin America was calculated as the sum of the real GNP of the Dominican Republic, Costa Rica, El Salvador, Guatemala, Mexico, Honduras, Brazil, Chile, Peru, Colombia and Venezuela, divided by the total population of these countries. The result shows that Puerto Rico has been growing much less than the US, and less than Latin America. By 1998 Puerto Rico's per capita GNP was very close to the average of a Latin American economy.

FIGURE 5

Evolution of per capita GNP of Puerto Rico, the US and Latin America



Note: Per capita GNP of Latin America was calculated as the ratio of total GNP to total population of Dominican Republic, Costa Rica, El Salvador, Guatemala, Mexico, Honduras, Brazil, Chile, Peru, Colombia and Venezuela.

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