

BRANDEIS UNIVERSITY



THE HELLER SCHOOL FOR SOCIAL POLICY AND MANAGEMENT

CENTER FOR INTERNATIONAL DEVELOPMENT

**Comparison of the quality of life among Puerto Ricans
in Puerto Rico and in the United States mainland:
1970-2000**

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EXECUTIVE SUMMARY

Objective

The objective of this report is to compare indicators of quality of life between Puerto Ricans in Puerto Rico and on the mainland of the United States during 1970-2000.

Data

For the analysis we draw on the last four decennial censuses (1970, 1980, 1990, and 2000) of the United States. For the mainland, we draw on the Integrated Public Use Microdata Series (IPUMS). For Puerto Rico, we draw on the 1970 Census of Population and Housing of Puerto Rico; for 1980, 1990 and 2000 we draw on the Public Use Microdata Series (PUMS) summary files. As suggested by IPUMS, we use the Consumer Price Index to adjust for inflation.

Sampling

We restrict the analysis to Puerto Ricans from 21 to 64 years of age who were not enrolled in the armed forces or in school. We equate Puerto Ricans with the following categories of people: (1) United States citizens born in Puerto Rico, (2) first or second-generation residents of the United States mainland whose parents were born in Puerto Rico, or (3) people who identify as Puerto Ricans when asked for their race or ancestry.

Methods and outcomes

For each year, we compare summary statistics between Puerto Ricans in Puerto Rico and on the mainland. To obtain trends over time, we use regression analysis.

We focus on six outcomes: (1) demography (share of single women in the total female population; fertility rates), (2) educational attainment and self-reported skills in spoken English, (3) earnings per person for people in the labor force, (4) employment, (5) health, (6) reliance on public assistance, and (7) household wealth. Table 1 contains summary statistics of the outcomes for Puerto Ricans on the island and the mainland.

Caveats

Definition of quality of life

In the analysis we have tried to use obvious, objective indicators of quality of life for Puerto Ricans in both the island and on the mainland. Since quality of life contains many different dimensions, the indicators we use do not exhaust all possibilities. Some indicators may be more apt in one location than in another. For instance, self-assessed proficiency in spoken English may be a better indicator of quality of life on the mainland than in Puerto Rico.

Biases

Because we only compare the mean or median of the sample in Puerto Rico with the mean or median of the sample on the mainland, our results and conclusions may gloss over heterogeneity in each sample. Our results gloss over differences in quality of life among sub-groups, that one could detect using more disaggregated analyses.

Analysis and findings

Demography

- During 1970-2000, the share of adult single women in Puerto Rico increased by 1.6%/year and converged with the share found on the mainland (about 25%).
- Fertility in Puerto Rico declined from 3.3 children/woman in 1970 to 2.64 children/woman in 1990, slightly above the rate for Puerto Rican women on the mainland (2.28 children/woman).

Educational attainment and English language skills

- Graduation rates from high school have increased by 3.2%/year on the mainland and by 2.5%/year in Puerto Rico.
- In 2000, a slightly higher share of Puerto Ricans completed high school on the mainland (65.44%) than on the island (64.09%).
- Rates of college completion have been higher in Puerto Rico than on the mainland during 1970-2000. However, the rate of growth of college graduation on the mainland (6.2%/year) has been higher than in Puerto (3.5%/year).
- In 2000, a higher share of Puerto Ricans completed university in Puerto Rico (17.26%) than on the mainland (11.75%).
- The share of Puerto Ricans who say they speak English very well increased in both Puerto Rico and on the mainland, but in 2000, the share was almost 2.7 times higher on the mainland (87.93%) than in Puerto Rico (32.88%).

Earnings

- The difference in earnings between Puerto Ricans on the mainland and in the island has increased. In 2000, Puerto Ricans on the mainland earned 91% more than Puerto Ricans in Puerto Rico.
- During 1970-2000, levels of hourly wages were, on average, 73% higher on the mainland than in Puerto Rico.

Employment

- During 1970-2000, the share of the population in the labor force declined slightly in Puerto Rico (0.01%/year), and increased on the mainland (0.5%/year).

- During 1970-2000, unemployment in Puerto Rico increased by 4.6%/year. In 2000, the unemployment rate in Puerto Rico (17.75%) was twice as high as the unemployment rate for Puerto Ricans on the mainland (9.1%).

Health

- From 1980 until 2000, the share of Puerto Ricans who did not report any work disabilities in Puerto Rico fell at an annual rate of 0.12%.

Reliance on public assistance

- During 1970-2000, the share of the population receiving public assistance increased by 248% in Puerto Rico while it decreased by 51% on the mainland.
- For those on public assistance, the amount of public assistance received per person was, on average, three times higher on the mainland than in Puerto Rico.

Household wealth

- Houses owned by Puerto Ricans on the mainland had, on average, 2.3 times higher value than houses owned by Puerto Ricans in Puerto Rico.
- In 1970, the average Puerto Rican household either in Puerto Rico or on the mainland owned 0.52 cars. By 2000 the gap in the number of cars owned by a household had widened and was 1.82 on the mainland and 1.33 in Puerto Rico.
- The share of households in Puerto Rico with access to a telephone more than tripled from 21.52% in 1970 to 76.64% in 2000. The share remains below the share of households of Puerto Ricans on the mainland with access to telephones (90.85%).

Summary

The information suggests that Puerto Ricans in Puerto Rico lag behind their counterparts on the mainland in earnings, employment rate, rates of labor-force participation, reliance on public assistance, proficiency in spoken English, rates of high-school graduation, and levels of household wealth. In other outcomes both populations have converged. During 1970-2000, fertility rates for women in Puerto Rico declined and reached the same levels as fertility rates for women on the mainland. The shares of adult single women on the mainland and in Puerto Rico have also converged. The share of households with access to a telephone has grown in Puerto Rico and approached the level of the mainland, but still remains below the mainland. In only one outcome do Puerto Ricans on the island do better than Puerto Ricans on the mainland: rates of college graduation.

Table 1. Comparison of socio-economic outcomes between Puerto Ricans living in Puerto Rico and Puerto Ricans living on the mainland (1970-2000): Summary

Outcomes		Year of census:				% change 1970-2000
Demography		1970	1980	1990	2000	
Single women (%)	Puerto Rico	15.10	19.10	21.55	24.16	60.0%
	Mainland	24.97	28.53	26.34	26.09	4.5%
Fertility (children/ woman)	Puerto Rico	3.33	2.90	2.64	N/A	-20.7%
	Mainland	2.84	2.56	2.28	N/A	-19.7%
Education and English skills						
High school (%)	Puerto Rico	30.23	42.67	53.00	64.09	112.0%
	Mainland	25.32	41.83	56.61	65.44	158.5%
College and university (%)	Puerto Rico	6.09	9.62	12.94	17.26	183.4%
	Mainland	1.98	5.13	8.82	11.75	493.4%
English proficiency (%)	Puerto Rico	N/A	24.78	24.55	32.88	32.7%
	Mainland	N/A	75.49	84.29	87.93	16.5%
Earnings						
Hourly wage* (\$)	Puerto Rico	4.88	5.16	4.44	4.91	0.6%
	Mainland	9.02	8.69	9.09	8.53	-5.4%
Earnings (\$/year)*	Puerto Rico	8,645	8,385	7,000	8,165	-5.5%
	Mainland	17,120	15,213	16,000	15,620	-8.8%
Employment						
Labor force (%)	Puerto Rico	50.02	51.05	56.04	48.14	-3.8%
	Mainland	57.13	62.57	68.26	65.02	13.8%
Unemployment (%)	Puerto Rico	4.66	12.63	17.46	17.75	280.9%
	Mainland	5.88	9.42	10.35	9.10	54.8%
Health						
Health (%)	Puerto Rico	N/A	85.18	84.00	83.23	-2.3%
	Mainland	N/A	86.92	86.76	83.08	-4.4%
Public assistance (PA)						
Share of population receiving PA (%)	Puerto Rico	3.40	7.32	17.71	11.83	247.9%
	Mainland	14.04	18.37	14.67	6.88	-51.0%
Amount* of PA received per person (\$)	Puerto Rico	1,170	2,368	1,938	1,482	26.7%
	Mainland	7,241	5,667	4,317	2,546	-64.8%
Share of income from PA (%)	Puerto Rico	53.95	73.75	76.94	77.22	43.1%
	Mainland	86.49	87.80	87.02	60.39	-30.2%
Household wealth						
Selling price of house*	Puerto Rico	35,039	44,065	34,124	64,911	85.3%
	Mainland	71,058	86,342	124,232	106,262	49.5%
Number of cars	Puerto Rico	0.52	0.76	1.18	1.33	155.8%
	Mainland	0.52	0.80	1.76	1.82	250.0%
Telephones (%)	Puerto Rico	21.52	34.96	64.94	76.64	256.1%
	Mainland	60.75	76.44	83.98	90.85	49.5%

Notes:

For definition of outcomes, see Tables A2a and A2b in the Annex

**: Prices adjusted by CPI (Annex, Table A3)*

N/A: No information available

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INTRODUCTION

Objective

The objective of this report is to compare indicators of quality of life between Puerto Ricans in Puerto Rico and on the mainland of the United States during 1970-2000.

Data

For the analysis we draw on the last four decennial censuses (1970, 1980, 1990, and 2000) of the United States. For the mainland, we draw on the Integrated Public Use Microdata Series (IPUMS)¹. The samples include:

- **1970 Form 2 Metro sample** (originally “15%” county group sample) 1-in-100 national random sample of the population. About 744,000 household and 2,030,000 person records included.
- **1980 1% Metro** (originally “B” sample) 1-in-100 national random sample of the population. (Note, this is not a sample only of metro areas). About 942,000 household and 2,267,000 person records included.
- **1990 1% Metro sample.** 1-in-100 national random sample of the population. (Note, this is not a sample only of metro areas). About 1,106,000 household and 2,500,000 person records included.
- **2000 1% Census PUMS.** 1-in-100 national random sample of the population. About 1,237,000 household and 2,819,000 person records.

For Puerto Rico, we used the following sources:

- **1970 Census of Population and Housing. Puerto Rico. 20% Public Uses Samples.** National Archives and Records Administration (NARA).
- **5% Public Use Microdata Sample (PUMS) of the 1980 and 1990 censuses**, which include United States citizens of Puerto Rican descent living in Puerto Rico and on the mainland. We extracted data on Puerto Ricans living in Puerto Rico.
- **Summary File 3 of the United States Census 2000, released on September 25th, 2002.** This data set consists of 813 detailed tables of Census 2000 social, economic and housing characteristics compiled from a sample of about 19 million housing units (about 1 in 6 households) that received the long-form questionnaire during the census of 2000. We extracted data on Puerto Ricans living in Puerto Rico.

As suggested by IPUMS, we use the Consumer Price Index to adjust for inflation.

Sampling

We restrict the analysis to Puerto Ricans from 21 to 64 years of age who were not enrolled in the armed forces or in school. We equate Puerto Ricans with the following categories of people: (1)

¹ See full references at the end of this document

United States citizens born in Puerto Rico, (2) first or second-generation residents of the United States mainland whose parents were born in Puerto Rico, or (3) people who identify as Puerto Ricans when asked for their race or ancestry.

Methods and outcomes

For each year, we compare summary statistics between Puerto Ricans in Puerto Rico and on the mainland. To obtain trends over time, we use regression analysis.

We focus on six outcomes: (1) demography (share of single women in the total female population; fertility rates), (2) educational attainment and self-reported skills in spoken English, (3) earnings per person for people in the labor force, (4) employment, (5) health, (6) reliance on public assistance, and (7) household wealth. Table 1 of the executive summary contains summary statistics of the outcomes for Puerto Ricans on the island and the mainland.

Caveats

Definition of quality of life

In the analysis we use obvious, objective indicators of quality of life for Puerto Ricans in both the island and on the mainland. Since quality of life contains many different dimensions, the indicators we use do not tap into all possible dimensions of quality of life. Some indicators may be more apt in one location than in another.

For instance, self-assessed proficiency in spoken English may be a better indicator of quality of life on the mainland than in Puerto Rico because of the greater prevalence of Spanish on the island. Car ownership affords another example. People living in small cities without public transportation may be more likely to own cars than people living in big cities with better public transportation. The increase in car ownership by Puerto Ricans on the mainland discussed later might not indicate an improvement in quality of life, but simply a shift in their geographic location, and thus, a shift in their needs. Last, it is not clear whether higher reliance on welfare payments indicates a worse quality of life. This might be true only if a lower level of welfare receipts occurs owing to a lower level of need. The decline in welfare reliance in the 1990s was at least in part due to a shift in the rules, making it harder for people to obtain welfare.

Biases

Because we only compare the mean or median of the sample in Puerto Rico with the mean or median of the sample on the mainland, our results gloss over internal differences in quality of life within each group. Further, since we exclude people in the military or those below the age of 21, we may have underestimated the share of Puerto Ricans in Puerto Rico who are proficient in spoken English since the young and people in the military are more likely to know or to have been exposed to English instruction.

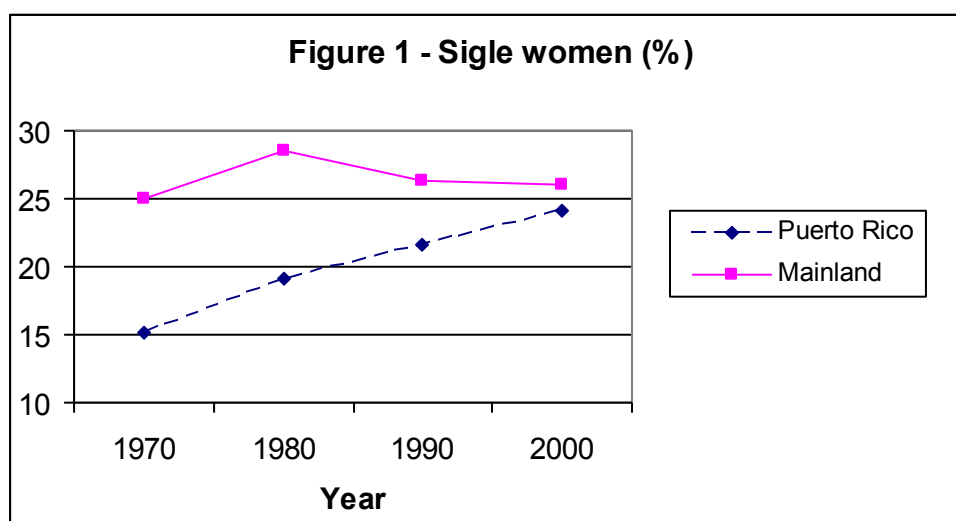
ANALYSIS AND FINDINGS

1- Demography

a) Single women (1970-2000)

Under single women we include women who were separated, divorced, or widowed at the time of the census. Figure 1 suggests that by the year 2000, the share of single women in Puerto Rico and on the mainland were similar (about 25%).

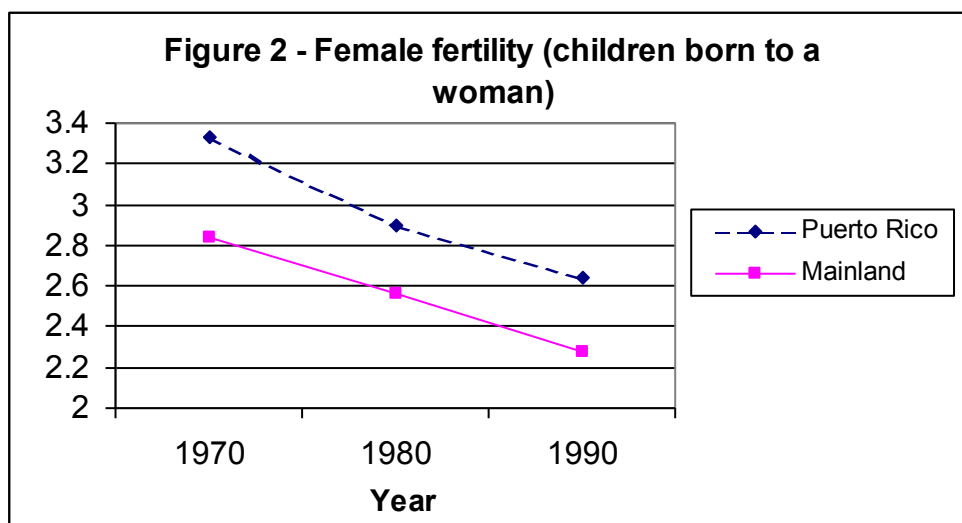
During 1970, single women accounted for 24.97% of the Puerto Rican female population on the mainland, whereas single women in Puerto Rico accounted for 15% of the adult female population. From 1970 until 2000, the share of single women in Puerto Rico increased by a total of 60%, or roughly 1.6%/year. On the mainland, the share of single women stayed constant at about 25%. From 1970 until 2000 the gap in the share of single women between the mainland and the island narrowed from a difference of about 10 percentage points to two percentage points.



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) Female fertility (1970-1990)

We define female fertility as the number of children ever born to a woman of reproductive age (more than 14 years of age according to the census of 1970, and more than 15 years of age according to the census of 1980). We limit the analysis to 1970-1990 because the 2000 census did not include questions on fertility. During 1970-1990, female fertility rates fell by a total of 20% in both Puerto Rico and on the mainland (Figure 2). Female fertility in Puerto Rico has been, on average, 13% higher than female fertility rate on the mainland, but the gap narrowed slightly during 1980-1990, as Figure 2 suggests.

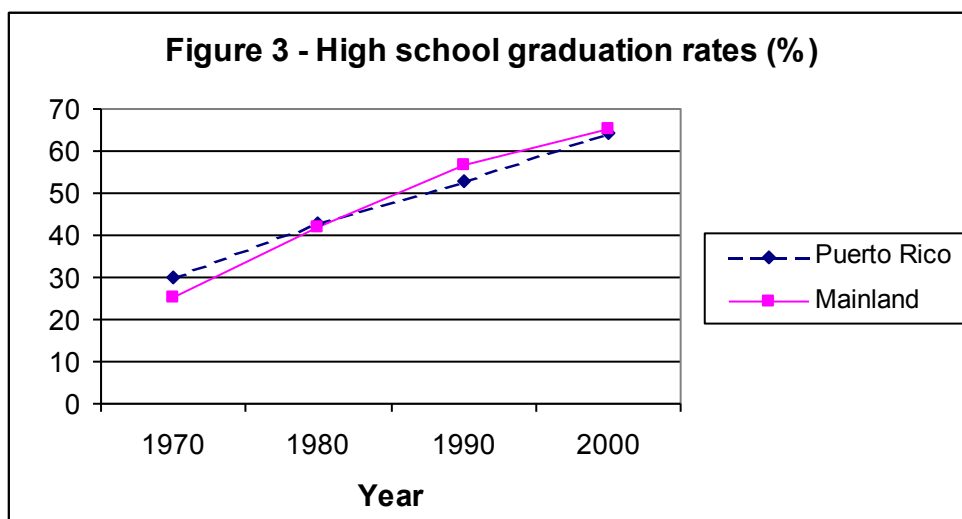


Sources: IPUMS 1970-1990 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-1990 U.S. Census Bureau www.census.gov

2 – Educational attainment and English skills

a) High school (1970-2000)

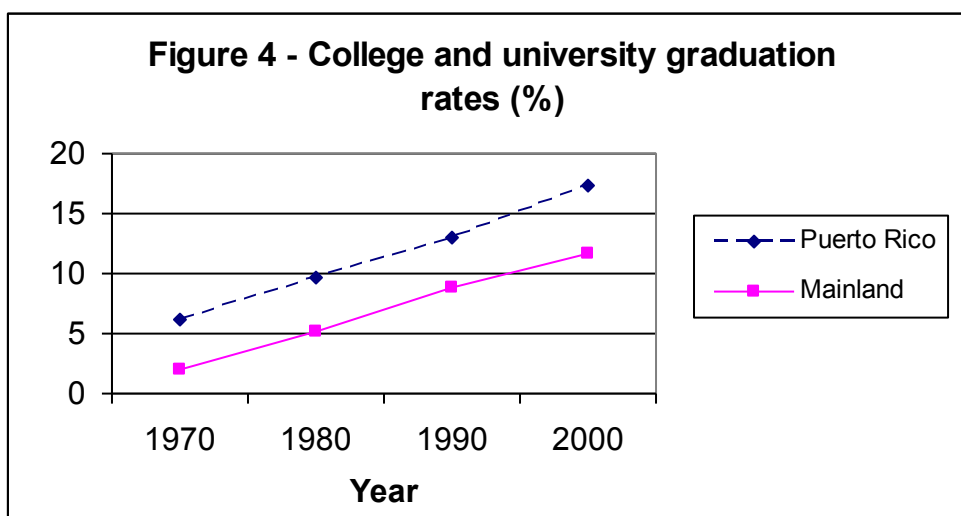
In this section we include Puerto Ricans who graduated from high school irrespective of whether they continued with higher education. During 1970-2000, Puerto Ricans increased their rate of high-school completion, both in Puerto Rico and on the mainland (Figure 3). During the 1970s, 30.23% of Puerto Ricans in Puerto Rico graduated from high school; by the year 2000, the share increased to 64.09%. Improvement has been more marked on the mainland than in Puerto Rico. For instance, during 1970, the share of Puerto Ricans with a high-school degree on the mainland was 25.32%, compared with 30.23% in Puerto Rico. By the year 2000, 65.44% of Puerto Ricans on the mainland but only 64.09% of Puerto Ricans in Puerto Rico had completed a high school degree. During 1970-2000, graduation rates on the mainland increased by a total of 158% (3.2%/year); in Puerto Rico high-school graduation rates increased by a total of only 112% (2.5%/year).



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) College and university (1970-2000)

The rate of college graduation increased steadily in the last 30 years, both in Puerto Rico and on the mainland (Figure 4). Puerto Ricans in Puerto Rico have had higher levels of college graduation than Puerto Ricans on the mainland. In 2000, the share of Puerto Ricans on the island with a college degree was 17.26%, about five percentage points higher than the share of Puerto Ricans on the mainland with a college degree (11.75%).

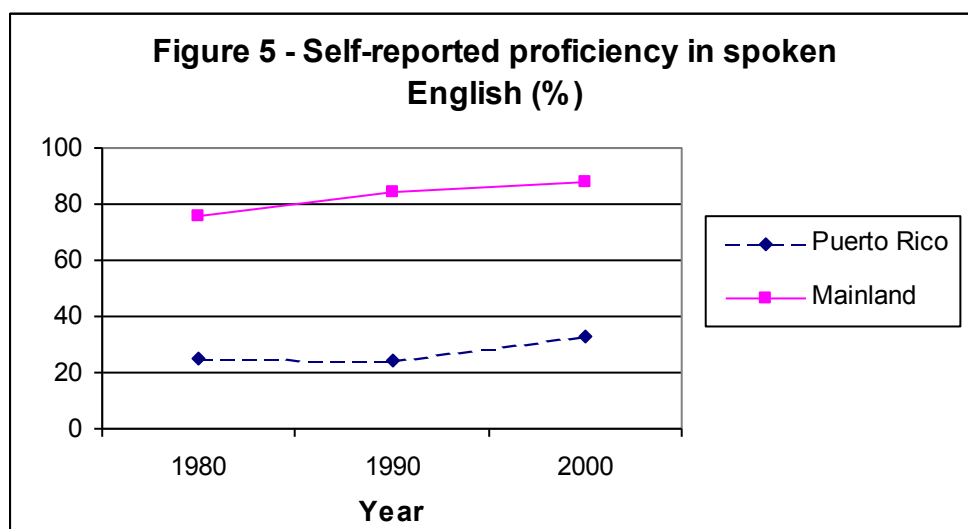


Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

c) English proficiency (1980-2000)

The census of the mainland ranks the ability to speak English by the following categories: ‘very well’, ‘well’, ‘not well’, and ‘not at all’. The Puerto Rican census classifies a person’s speaking ability in English by the following categories: ‘easily’, ‘with difficulty’ or ‘not at all’. We defined English proficiency as the self-reported ability to speak English well; on the mainland this refers to people who said they spoke English ‘well’ or ‘very well’, and in Puerto Rico this refers to people who said they spoke English ‘easily’. Since the 1970 census for the mainland did not include a variable for proficiency in spoken English, we limit the analysis to 1980-2000.

During 1980-2000, the share of Puerto Ricans in Puerto Rico who said they spoke English well rose by 1.8%/year, from about 24.78% in 1980 to 32.88% in 2000 (Figure 5). The increase came only during the last decade (1990-2000). On the mainland, the share of Puerto Ricans reporting proficiency in spoken English increased from 75.49% in 1980 to close to 87.93% in 2000. During 1980-2000, the share of Puerto Ricans on the mainland who spoke English well rose by 0.8%/year. On average, the share of people with good command of English on the mainland has been three times higher than the share of people with good command of English in Puerto Rico.



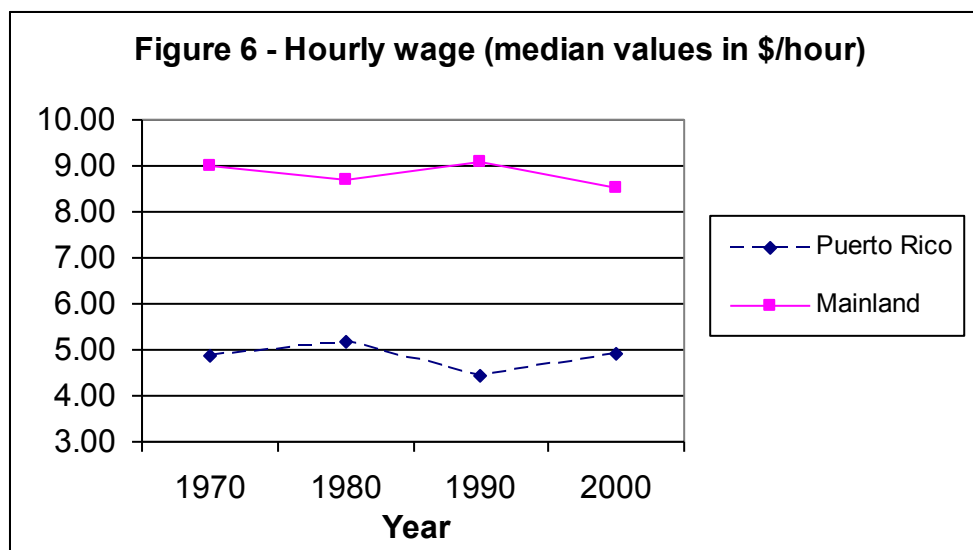
Sources: IPUMS 1980-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
1980-2000 U.S. Census Bureau www.census.gov

3 – Earnings

a) Hourly wage (1970-2000)

We estimated the hourly wage as the median values of personal total earnings divided by the total number of hours worked the year before the census took place. We calculated the total number of hours worked by taking the number of weeks worked in the year and multiplying the amount by the number of hours reported worked each week. We use the median instead of the mean to avoid possible distortions caused by outliers.

Levels of median hourly earnings on the mainland were, on average, 83% higher than in Puerto Rico (Figure 6). Hourly wages have declined at a similar rate on the mainland and in Puerto Rico. In Puerto Rico, the median hourly wage fell by 0.13%/year, and on the mainland it fell by 0.12%/year. By 2000, hourly wages on the mainland were about 73% higher than in Puerto Rico.



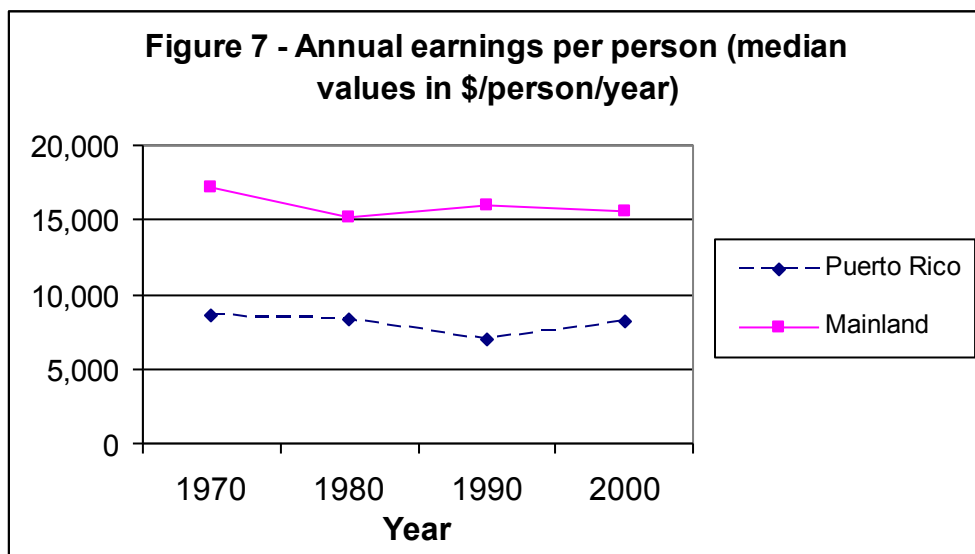
Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) Earnings (1970-2000)

Earnings refer to income from wages, salaries, farming, and self-employed business activities during the year before the census. We compute earnings only for people in the labor force.

During 1970-2000, Puerto Ricans on the mainland had higher earnings than Puerto Ricans in Puerto Rico; the difference grew over time (Figure 7). Earnings for Puerto Ricans on the mainland decreased 0.23%/year during 1970-2000. In Puerto Rico earnings fell slightly faster, by an average of 0.34%/year. In 2000, Puerto Ricans on the mainland earned 91% more than Puerto Ricans in Puerto Rico.

The difference in earnings between Puerto Ricans in Puerto Rico and on mainland in the 2000 census (91%) is higher than the difference in hourly wages between Puerto Ricans in Puerto Rico and on the mainland in the 2000 census (73%). The difference in total hours worked per week and in the total weeks worked per year explain the discrepancy. Puerto Ricans on the mainland not only have higher wages, but also work more hours. Puerto Ricans in Puerto Rico worked, on average, 32 hours per week and 39 weeks a year. In contrast, Puerto Ricans on the mainland worked 38 hours per week and 43 weeks a year.



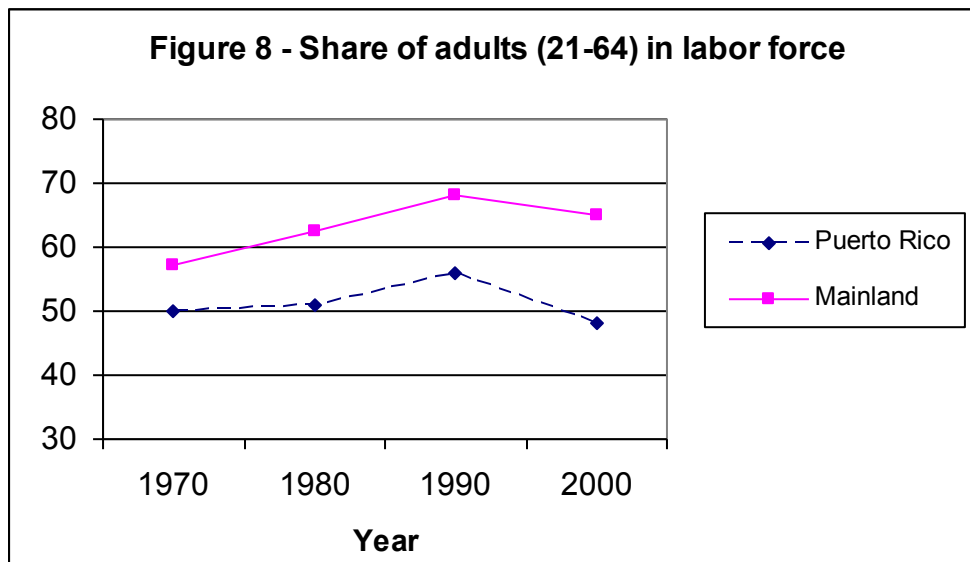
Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

4 – Employment

a) Labor force participation (1970-2000)

Labor force participation refers to people with a job who were working at the time of the census, people with a job who were not working, or to people who were unemployed but searching for a job.

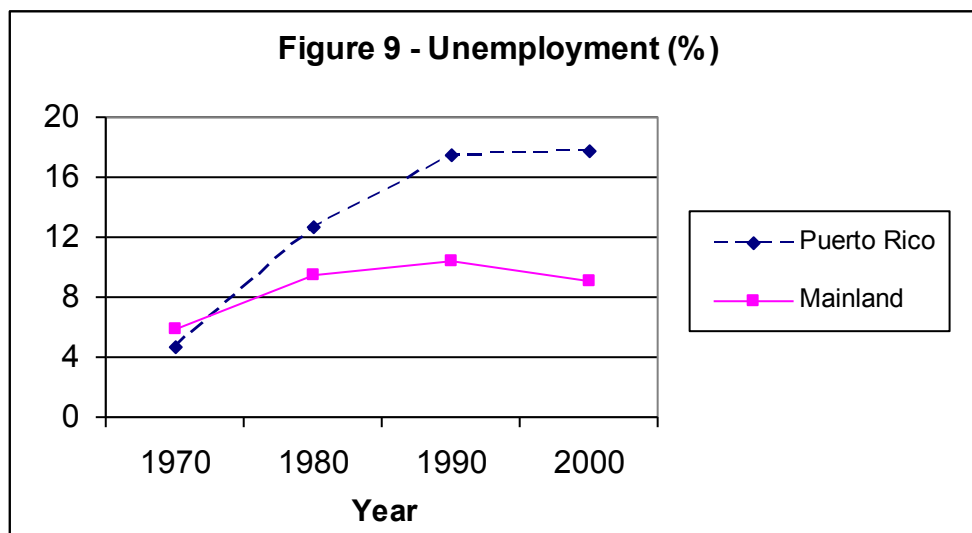
During 1970-2000, trends in labor force participation in Puerto Rico and on the mainland were similar, with rates on the mainland about 12 percentage points higher, on average, than rates in Puerto Rico (Figure 8). Over the last 10 years, the share of Puerto Ricans in the labor force in the United States declined, but the decline has been sharper in Puerto Rico than on the mainland. During 1990-2000, the share of Puerto Ricans in the labor force declined by 14% in Puerto Rico and by 5% on the mainland. In 2000, 65.02% of Puerto Ricans on the mainland were in the labor force, compared with 48.14% of Puerto Ricans in Puerto Rico who were in the labor force. During 1970-2000, the share of the population in the labor force declined slightly in Puerto Rico (0.01%/year), and increased on the mainland (0.5%/year).



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) Unemployment (1970-2000)

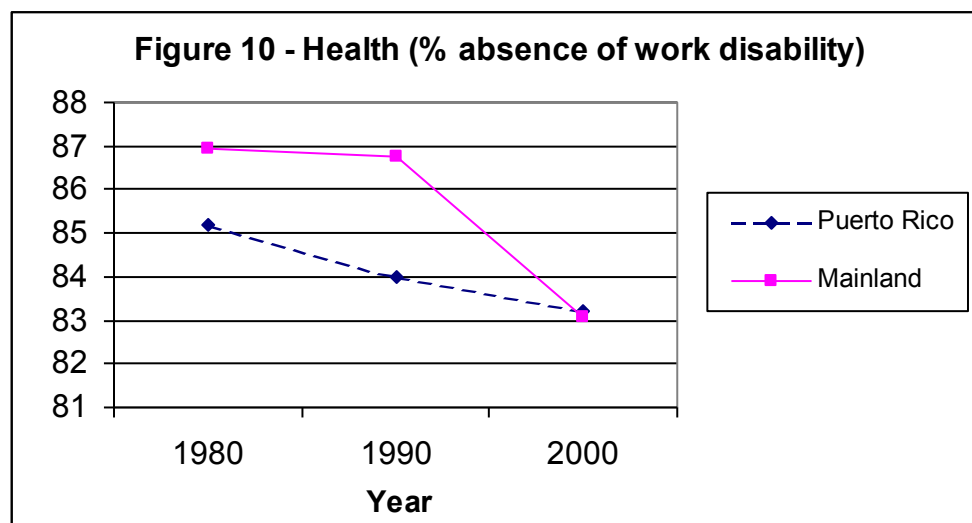
From 1970 until 1990, unemployment increased both in Puerto Rico and on the mainland, but in Puerto Rico unemployment increased at a faster rate than on the mainland (Figure 9). During 1990-2000, unemployment levels among Puerto Ricans on the mainland declined from about 10% to 9%, but in Puerto Rico unemployment levels remained constant at about 17%. Although Puerto Ricans on the mainland and in Puerto Rico had about the same levels of unemployment in 1970 (about 5%), by 2000 Puerto Rico had an unemployment rate almost twice as high as the unemployment rate on the mainland (9%). During the last three decades, unemployment in Puerto Rico increased by a total of 280% or 4.6%/year. This is 3.3 times higher than the annual rate of growth in unemployment on the mainland (1.4%/year)



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

5 – Health (1980-2000)

We define health as the self-reported absence of disability to work. From 1980 until 2000, the share of Puerto Ricans reporting no work disability declined by 0.12%/year in Puerto Rico and by 0.22%/year on the mainland. Puerto Rico showed a continuous decline in health indicators during the last twenty years. By 2000, about 83% of the population in both the island and on the mainland reported having no work disabilities.

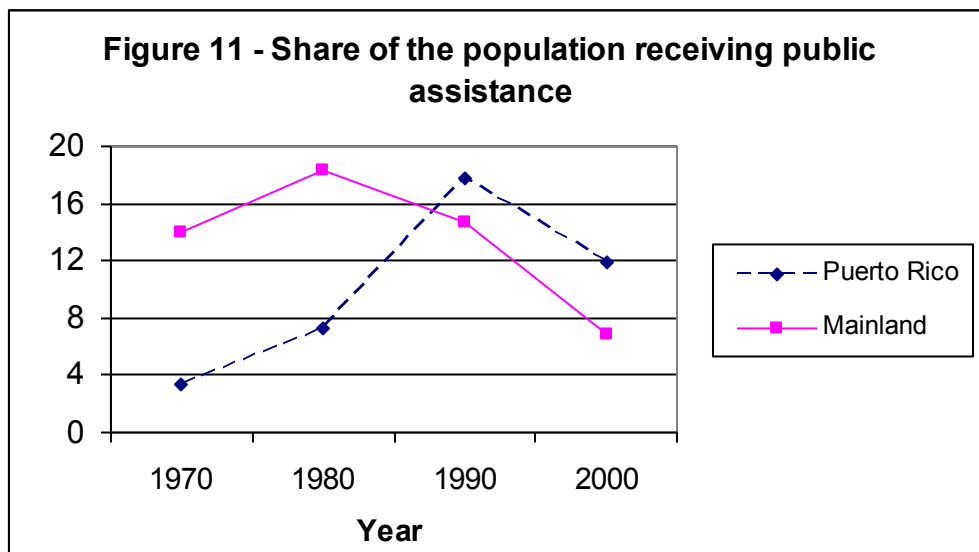


Sources: IPUMS 1980-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1980-2000 U.S. Census Bureau www.census.gov

6 – Reliance on public assistance

a) Share of the population receiving public assistance (1970-2000)

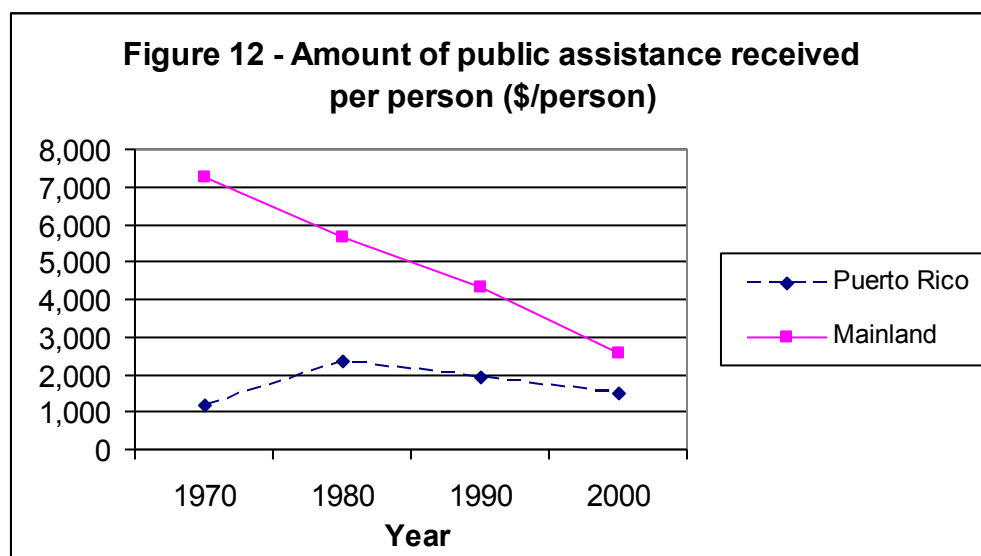
Until 1980, Puerto Ricans on the mainland were more likely to receive public assistance than Puerto Ricans in Puerto Rico (Figure 11). By 1990, the pattern switched and Puerto Ricans on the island had higher levels of coverage. The 1990s saw a decline in dependence on public assistance in both Puerto Rico and on the mainland. In 2000 almost 7% of the Puerto Rican population on the mainland received public assistance, compared with 12% in Puerto Rico.



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) Amount of public assistance received per person (1970-2000)

During 1970-2000, levels of public assistance on the mainland for people on welfare decreased steadily at an annual rate of 3.4% (Figure 12). From 1970 until 2000, the level of public assistance on the mainland declined by a total of 65%. In Puerto Rico, the amount of public assistance increased from the year 1970 until 1980, but declined starting in 1980. During 1980-2000, the amount of public assistance received by welfare recipients in Puerto Rico declined by 2.5%/year. In 2000, the level of public assistance on the mainland was 72% higher than in Puerto Rico.

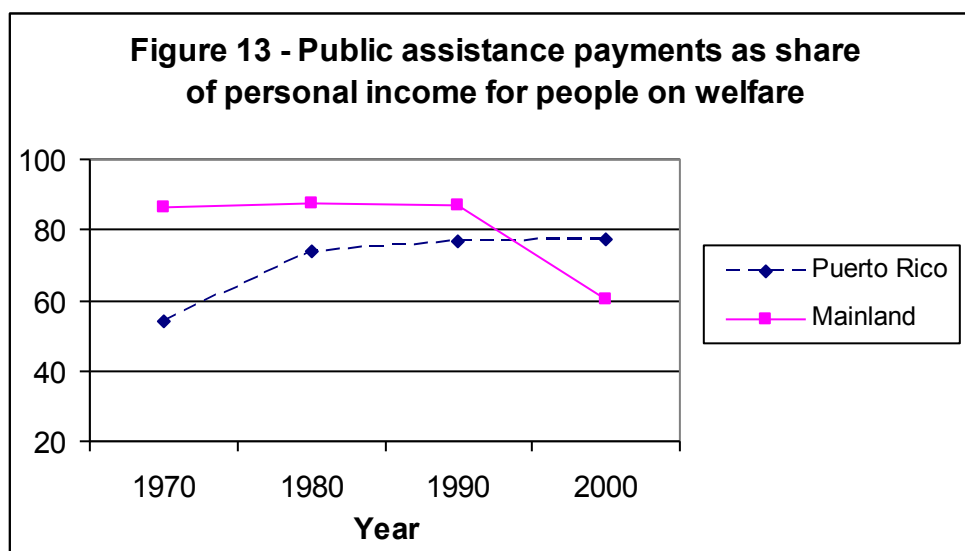


Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

c) Share of total personal income from public assistance for people on welfare (1970-2000)

Here we calculate the share of public assistance in total personal income for people receiving public assistance.

From 1980 until 2000, the share of income from public assistance for Puerto Ricans in Puerto Rico averaged about 76% (Figure 13). For Puerto Ricans on the mainland, the share of public assistance in total income declined from about 87% during 1970-1990 to 60% in 2000.



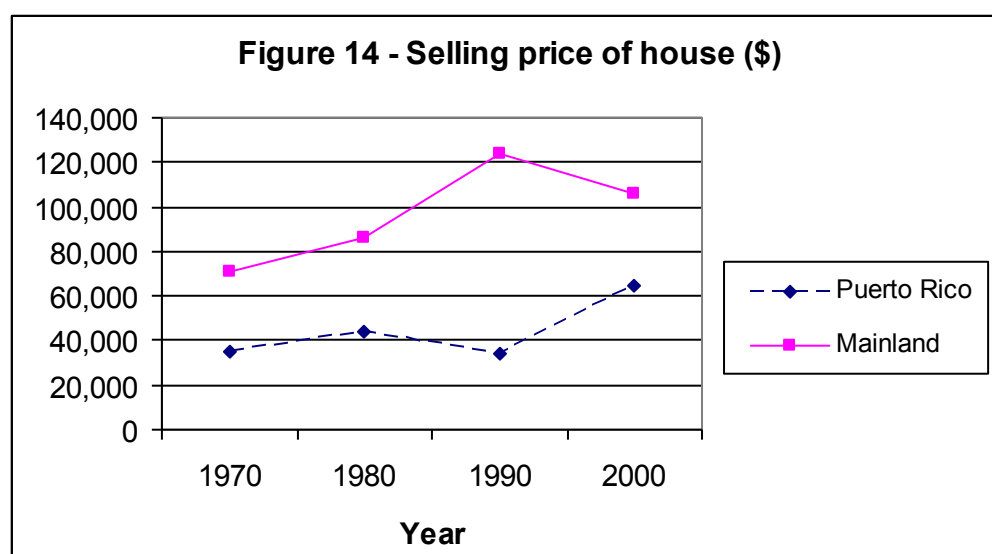
Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

7 – Household wealth

a) House value (1970-2000)

We defined house value as the selling price of the house owned by Puerto Ricans at the time of the census. One should interpret the figures with caution because of changes in the methods for estimating house values. For instance, the past four censuses have changed the intervals used to value properties, top codes, and the definition of real estate property.

From 1970 until 2000, the value of houses owned by Puerto Ricans increased by 50% on the mainland and by 85% in Puerto Rico (Figure 14). On average, house values on the mainland were 130% higher than house values in Puerto Rico. Although house values are higher on the mainland than in Puerto Rico, the gap has narrowed. In 2000, house values on the mainland were, on average, 64% higher than house values in Puerto Rico.

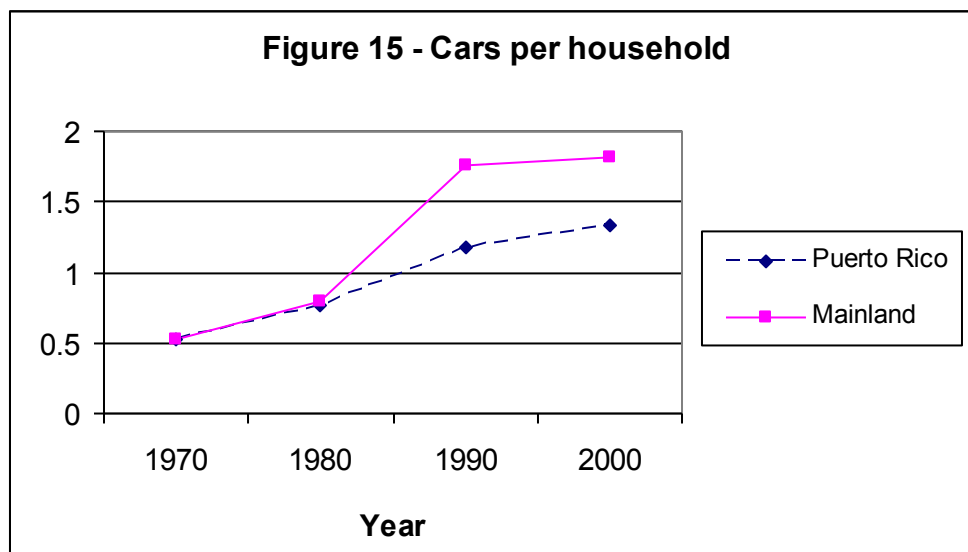


Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

b) Number of cars (1970-2000)

In the 1970 and 1980 censuses, car refers to the number of cars owned by households. In the 1990 and 2000 censuses, car refers to the number of vehicles in general, including trucks, owned by households.

The number of cars owned by Puerto Rican households increased 250% on the mainland and 155% in Puerto Rico (Figure 15). In 1970, a Puerto Rican household in Puerto Rico or on the mainland owned, on average, 0.52 cars. By 2000 the ownership of cars on the mainland was 37% higher than the ownership of cars in Puerto Rico. In 2000, a Puerto Rican household on the mainland owned an average of 1.8 cars, compared with 1.33 cars in Puerto Rico.

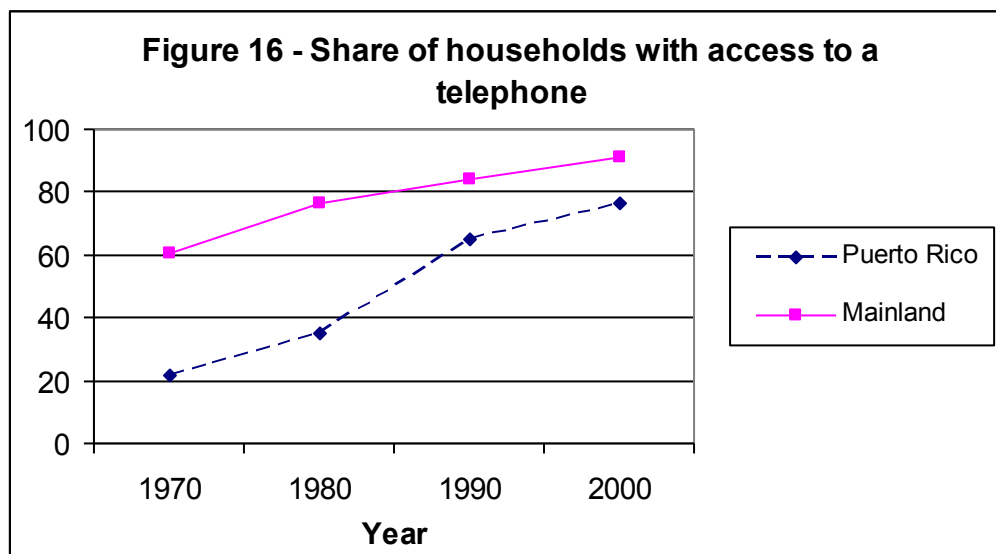


Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
 1970-2000 U.S. Census Bureau www.census.gov

c) Telephones (1970-2000)

In 1970, the variable telephones indicated whether the housing unit had access to a telephone to receive calls; the telephone could be inside or outside of the housing unit. For 1980-2000, an affirmative answer meant that the telephone was inside the housing unit.

Puerto Ricans on the mainland have had greater access to telephone than Puerto Ricans in Puerto Rico, but in the last twenty years Puerto Rico has converged to the mainland's average (Figure 16). From 1970 until 2000, the share of Puerto Rican households on the mainland with access to telephones grew by a total of 50%; in Puerto Rico, the share grew by 256%, from 21.52% to 76.64%. In 1970 the share of households on the mainland with telephones (60.75%) was three times higher than the share of households in Puerto Rico with telephones (21.52%). By 2000, the gap narrowed, with 90.85% of households on the mainland and 76.64% of households in Puerto Rico having access to telephones.



Sources: IPUMS 1970-2000 Data extraction system <http://www.ipums.org/usa/doc.html>
1970-2000 U.S. Census Bureau www.census.gov

SUMMARY

The most significant empirical findings to emerge from this study include the following:

The population of single women in Puerto Rico increased by 60% in the last 30 years, and caught up with the historically higher levels of the mainland.

During 1970-1990, fertility in Puerto Rico declined by 20%, and approached the fertility levels of Puerto Rican women on the mainland.

From 1990 until 2000, Puerto Ricans on the mainland were slightly more likely to graduate from high school and continue studying than Puerto Ricans in Puerto Rico. During the 1970s and part of the 1980s, levels of graduation from high school were better in Puerto Rico than on the mainland.

Puerto Ricans on the island are more likely to obtain a college degree than Puerto Ricans on the mainland.

In 2000, the share of people with good command of English on the mainland (88%) was 2.7 higher than the share of people with good command of English in Puerto Rico (33%). The gap in self-assessed proficiency in spoken English between Puerto Ricans on the mainland and in Puerto Rico has remained stable during the last 30 years.

Levels of hourly wages on the mainland have been, on average, 73% higher than on the island.

In 2000, Puerto Ricans on the mainland earned 91% more than Puerto Ricans on the island. The gap in earnings has increased during the last three decades. During 1970-2000, income on the mainland declined by 0.23%/year, and in Puerto Rico by 0.34%/year.

During 1990-2000, the share of the population in the labor force declined by a total of 14% in Puerto Rico and by a total of 5% on the mainland .

During 1970-2000, the unemployment rate in Puerto Rico increased by a total of 280%, or 4.6%/year. In 2000 the unemployment rate in Puerto Rico (17.75%) was twice as high as the unemployment rate on the mainland (9.1%). The gap has increased over time from about a three-percentage point difference in 1980 to about a nine-percentage point difference in 2000.

The share of people reporting no work disability has declined both on the mainland and in Puerto Rico, but the decline has been steeper on the mainland. By 2000, the share of Puerto Ricans on the mainland and in Puerto Rico reporting no work disability was the same (83%).

During 1990-2000, the share of the population receiving public assistance in Puerto Rico declined by 33%. In 2000, public assistance payments as a share of total personal income for people receiving public assistance in Puerto Rico reached 77.22%. The amount of public assistance received per person was 72% higher on the mainland than in Puerto Rico.

House value, cars per household, and access to telephone on the island increased steadily during the last thirty years. However, **Puerto Ricans on the island have not yet reached the levels of asset ownership enjoyed by Puerto Ricans on the mainland.**

ACKNOWLEDGMENTS

We would like to thank T. Hexner and A. MacEwan for comments on earlier drafts, Aimee Chin for help decoding the Puerto Rican 1970 census, and the Minnesota Population Center of the University of Minnesota for making available the IPUMS.

ANNEX

Table A1. Ethnicity and sample cohort

	Year of census:			
	1970	1980	1990	2000
<i>Puerto Rico</i>				
Ethnicity	Puerto Ricans: born in Puerto Rico, living in Puerto Rico at the time of the census			
Cohort	Adults 21-64 years of age; not enrolled at school since February, 1970; not in Armed Forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 1980; not in Armed Forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 1990; not in Armed Forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 2000; not in active military service or in training for reserve on National Guard
<i>Mainland</i>				
Ethnicity	Puerto Ricans: born in Puerto Rico, or with mother or father born in Puerto Rico, or with self-reported Puerto Rican ancestry or ethnic origin; living in Puerto Rico by the time of the census.			
Cohort	Adults 21-64 years of age; not enrolled at school since February, 1970; not in armed forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 1980; not in Armed Forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 1990; not in Armed Forces	Adults 21-64 years of age; US citizens; not enrolled at school since February, 2000; not in Armed Forces

Table A2a. Definition of census variables used for Puerto Rico data

Outcome	Year of census:			
	1970	1980	1990	2000
Single women	Separated, widowed or divorced			
Female fertility	Children ever born to a woman			
High school	Completed high school or more.		High school graduate, diploma or GED, or more	High school graduate, or more
College or university	College 4 th year finished, or more		Bachelor's degree, or more	
English proficiency	Ability to speak English; 1=yes; 0=no (not used in analysis)	ABILITY TO SPEAK ENGLISH; 1=EASILY; 0=WITH DIFFICULTY, OR NOT AT ALL		Ability to speak English; 1=easily or very well; 0=not well or not at all
Earnings	Pre-tax wages, salary, non-farm business, professional practice, and own-farm income received by individuals in the labor force			Pre-tax wages, salary, and self business income received by individuals in the labor force
Labor force	At work, with a job – not at work, or unemployed			
Unemployment	Unemployed; 1=yes; 0=no			
Hourly wage	Ratio of wage/salary income to total amount of hours worked last year ²			
Health	Not available	No disability to work; 1=yes; 0=no		
% population receiving public assistance (PA)	Received public assistance (PA) in the previous calendar year; 1=yes; 0=no			
Amount of PA received	Pre-tax income received during the previous calendar year from various public assistance programs			
Share of income from PA	RATIO OF PUBLIC ASSISTANCE TO PERSONAL INCOME			
Selling price house	Value of property for specified units			
Cars	Number of cars in household			
Telephone	Housing unit's access to a telephone; 1=yes; 0=no			

² The total amount of hours worked last year is a calculated value, composed by the total amount of weeks worked last year (originally expressed in intervals) times the average of hours worked per week (expressed in intervals at the 1970 census, and as usual number of hours worked per week in 1980, 1990 and 2000).

Table A2b. Definition of census variables used for mainland data

	Year of census:			
Outcome	1970	1980	1990	2000
Single women	Separated, widowed or divorced			
Female fertility	Children ever born from female			
High school	High grade attended; high school 12 th year, or more		High school graduated or GED	
College or university	College 4 th year, or more		Bachelor's degree, or more	
English proficiency	N/A	Speaks only English, speaks English very well or well; 1=yes; 0=no		
Earnings	Pre-tax wage, salary, farm and non-farm business income received during the previous calendar year by individuals in the labor force			Pre-tax wage, salary, business and farm income received during the last previous year by individuals in the labor force
Labor force	In Labor force; 1=yes, 0=no			
Unemployment	Unemployed; 1=yes; 0=no			
Hourly wage	Ratio of wage/salary income to total amount of hours worked the previous calendar year ³			
Health	Not available	No physical or mental health condition that caused difficulty working, limited the amount or type of work, or prevent from working altogether; 1=yes, 0=no		
% of population receiving public assistance (PA)	Receive public assistance (PA) in the previous calendar year; 1=yes; 0=no			
Amount of PA received	Pre-tax income received during the previous calendar year from various public assistance programs			
Share of income from PA	Ratio public assistance to personal income			
Selling price house	Value of owner-occupied housing units ⁴			
Cars	NUMBER OF AUTOMOBILES OWNED OR USED REGULARLY BY ANY HOUSEHOLD MEMBER		Number of cars, vans, and trucks of one-ton capacity or less owned or used regularly by any household member	

³ See the notes in Table A1a for this variable⁴ Data originally shown in intervals

Telephone	Housing unit's access to a telephone; 1=yes; 0=no
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Table A3. Consumer Prices Indexes (CPI)

All the monetary variables used in this document are largely comparable across years because we took into account inflation effects adjusting by CPI. For this study we used the CPI values suggested by IPUMS.⁵

Consumer Price Indexes			
1969	1979	1989	1999
3.39	1.72	1.00	0.71

⁵ See full references at the end of this document

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