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Honduras's Growth Performance During 1970–97

Prepared by V. Hugo Juan-Ramon[1]

Authorized for distribution by Enzo Croce

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Abstract

For more than three decades, Honduras's average annual growth in real per capita GDP has been almost zero and highly uneven, even though its total investment–to–GDP ratio has been relatively large. This paper argues that policy and efficiency variables seem to have had less of an influence on growth in Honduras than they had on other countries. Instead, lack of growth can be attributed to the offsetting negative influence of low labor and capital productivity, which result from deficient levels of human capital and inadequate composition of investment. Other constraints to growth in Honduras include inadequate physical and institutional infrastructures.

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Author's E-Mail Address: vjuanramon@imf.org

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I. INTRODUCTION

For more than three decades, Honduras's average annual growth in real per capita GDP has been almost zero and highly uneven, even though its total investment–to–GDP ratio has been larger than that of many high–growth countries in Latin America. This paper explores the likely causes of this weak performance. It examines the behavior of the variables relevant to sustainable growth in Honduras vis–a–vis two comparator groups: high–growth and medium- to low-growth countries, selected from a sample of 17 Latin American countries. Section II reviews recent growth trends in Honduras, Section III presents the conceptual framework used in the empirical analysis and discusses the results, Section IV focuses on policy recommendations, and Section V contains some concluding observations.

The findings indicate that Honduras's low growth rates in real per capita GDP appear to reflect the influence of a combination of factors. Policy– and efficiency–related variables, exogenous shocks, and political uncertainty seem to have had less of a negative influence on growth in Honduras than they have had on the comparator groups of countries. Instead, low growth can be attributed mainly to the negative influence of low labor and capital productivity, which result from relatively low levels of human capital (education, skills, and health of the population) and inadequate composition of investment. Other important constraints to growth in Honduras include inadequate levels of physical infrastructure (for example, communications, electricity, and transportation) and institutional infrastructure (for example, the judicial system, and land titling).

II. Growth in Honduras

Since 1970, Honduras's growth performance has been consistently weak and variable, despite relatively high ratios of total investment to GDP for most of the period and low inflation (see Figures A–1 to A–3). For the period 1970–97, the average growth rate in real per capita GDP was almost zero, although yearly rates fluctuated widely (from 6 percent to minus 6 percent). For the subperiods 1970–84 and 1985–97 the average growth rates of real per capita GDP were also similar, though yearly growth rates showed greater variability during 1970–84, probably because of the various shocks to the economy, including the war with El Salvador in 1969, hurricane damages in 1974, the coffee boom of 1976, and the debt crisis of the early 1980s (Table 1).

III. Conceptual Framework and Discussion of Results

Identifying the main causes hampering growth in Honduras is crucial to the design of medium-term policies conducive to sustainable economic growth. The paper first assesses the quality of labor and investment based on the growth accounting methodology; then it examines some of the factors affecting growth in Honduras based on a cross–country comparative analysis.

Growth accounting analysis

The average contribution of inputs to growth in real GDP for the period 1985–97, calculated from the Solow growth accounting equation, are shown in Table 2. The average contribution of labor to growth of 1.4 percent is explained by the average rate of growth of

Table 1. Honduras: Selected Variables

	1970 - 1984		1985 - 1997		1970 - 1997	
	Average	Std. Dev.	Average	Std. Dev.	Average	Std. Dev.
	(Average annual percentage change)					
Real GDP (at 1978 prices)	4.0	4.2	3.5	2.3	3.8	3.4
Real GDP per capita (at 1978 prices)	0.6	4.1	0.2	2.3	0.4	3.3
Population	3.3	0.0	3.3	0.0	3.3	0.0
GDP deflator	7.1	4.1	15.0	9.6	10.8	8.1
Consumer price index	7.7	4.3	15.1	10.8	11.1	8.7
External terms of trade, goods	2.0	14.6	1.5	12.1	1.8	13.3
Real effective exchange rate 1/ 2/	7.1	1.8	(3.6)	12.8	(0.7)	11.9
	(Average annual percentage of GDP)					
External current account	(7.7)	2.9	(4.5)	2.4	(6.1)	3.2
Foreign direct investment	0.1	0.3	1.2	0.3	0.6	0.6
	(Average of annual stocks, in US$ millions)					
International reserves	105.0	61.7	162.2	146.5	131.5	111.2
	(Index, 1990 = 100)					
Real effective exchange rate 3/	143.8	19.3	116.9	39.5	125.3	36.2

Source: Central Bank of Honduras and IMF documents.

1/ Data available for the period 1979–97.
2/ Parenthesis indicate a real depreciation of the lempira.
3/ A decrease indicates a real depreciation of the lempira.

Table 2. Honduras: Contribution to Real GDP Growth, Capital Formation, and Savings

	1970-1997	1985-1997
	(Average annual percentage change)	
Real GDP	3.8	3.5
Contribution of 1/		
Labor 2/	1.5	1.4
Capital 3/	1.9	1.9
Residual	0.4	0.2
	(Average annual percentage of GDP)	
Gross capital formation at constant prices	19.4	18.8
Gross capital formation at current prices	20.2	20.6
Public	7.7	7.9
Private	12.5	12.7
Gross domestic savings at current prices	16.3	19.9
Public	3.1	3.7
Private	13.2	16.2
External Savings	6.5	5.1
Depreciation of the stock of capital	5.7	6.4

Sources: Central Bank of Honduras, IMF documents, and Fund Staff estimates.

1/ The contribution of inputs to real GDP growth are calculated using the Solow's growth accounting equation, which can be expressed as follows: $\Delta y / y = \omega_L (\Delta L / L) + F_K (\Delta K / y)$, where y denotes real GDP; L and K are stocks of labor and capital, respectively; ω_L is the share of labor income in GDP; and F_K is the marginal productivity of capital.
2/ Based on an average share of labor income in total GDP of 44 percent for the period 1970–97 and of 42 percent for the period 1985–97; and on an average annual growth of the labor force of 3.3 percent for both periods.
3/ Based on an average real rate of return on new investment of 10 percent; and on an average real gross capital formation as percent of real GDP of 19.4 percent for the period 1970–97 and 18.8 percent for the period 1985–97.

the labor force (3.3 percent) and the share of labor income in GDP (42 percent). The share of labor income in GDP is smaller than in most of the comparator countries mainly because of low labor productivity,[2] which is associated with low levels of human capital formation.

The average contribution of capital to growth in real GDP (1.9 percent) is explained by the average ratio of gross capital formation at constant prices to real GDP (18.8 percent), and by the assumed average real rate of return on new investment (marginal productivity of capital) of 10 percent (see Table 2). The rate of technological progress (the residual in the Solow equation) is low, averaging 0.2 percent. Alternatively, if one considers that a plausible rate of technological progress for Honduras lies between 1 percent and 1.5 percent, then the marginal productivity of capital (obtained as a residual) would be between 6 percent and 3 percent, indicating a poor quality of investment. The quality of investment is assessed by examining the composition of investment between private and public and between construction and machinery.

Cross-country analysis

The cross-country analysis is based on Table 3, which shows average values of selected variables during 1969–95 for 17 Latin American countries, including Honduras, and for two comparator groups: high-growth countries and medium– to low–growth countries.[3]

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[2] The rate of growth of the labor force is higher in Honduras than in the other countries.

[3]The 17 countries in the sample are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, *Honduras*, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Table 3. Country Averages of Selected Variables, 1969–95

Country	YGPC	YO	PG	TIY	PIY	GIY	SEC70	INFL	DEFYI	XG	STRUC	OPEN	TTG	RERG	BMP	CRI	RIO
High-growth countries 1/																	
Brazil	2.62	1,740.6	2.2	21.2	13.1	8.1	9.6	474.6	-1.0	13.6	0.2	16.8	0.0	86.1	34.9	0.3	0.5
Colombia	2.37	922.8	2.2	18.3	12.4	5.9	9.8	21.9	-1.4	11.8	0.2	30.0	2.6	-1.4	9.2	0.4	0.6
Ecuador	2.35	957.2	2.7	21.4	16.2	5.2	6.2	26.4	-1.6	14.5	0.0	50.1	3.0	-2.0	24.9	0.3	0.3
Dominican Republic	2.35	882.7	2.7	23.4	16.8	6.6	12.1	16.8	-0.7	7.7	0.0	51.1	1.9	-0.7	37.2	0.1	0.7
Paraguay	2.17	909.1	3.0	25.7	17.3	8.4	10.3	16.6	-0.4	14.1	0.2	48.1	-0.7	-1.5	34.4	0.1	0.0
Chile	2.10	2,175.5	1.7	18.6	12.3	6.2	26.6	77.2	-0.3	13.4	0.8	66.9	-1.4	-3.9	48.9	0.4	1.5
Panama	2.08	1,769.7	2.5	25.0	19.3	5.7	17.4	3.7	-5.3	8.1	0.1	133.9	-0.2	-2.4	0.0	0.3	0.3
Uruguay	1.77	2,279.9	0.6	16.9	10.5	6.4	16.4	59.8	-2.3	10.5	0.3	37.9	1.5	2.0	15.4	0.4	0.3
Costa Rica	1.68	1,359.9	2.7	25.0	19.0	6.0	7.6	18.1	-4.0	11.0	0.3	71.6	-0.1	-1.7	57.5	0.0	0.1
Mexico	1.29	2,213.0	2.6	21.9	16.9	5.1	7.8	35.5	-4.4	17.1	0.3	26.5	0.4	-0.7	7.4	0.0	0.4
Medium- to low-growth countries 2/																	
Guatemala	0.64	828.8	3.0	15.2	10.3	4.9	3.5	12.1	-2.3	9.5	0.1	40.7	0.7	-1.3	15.9	0.4	0.4
Bolivia	0.52	629.7	2.4	14.6	6.4	8.2	21.6	521.1	-5.5	9.7	0.4	46.4	0.8	1.3	47.9	0.9	0.5
El Salvador	0.49	745.6	2.1	15.0	11.2	3.8	6.0	13.6	-2.4	9.2	0.3	56.7	2.7	2.6	58.5	0.0	0.3
Argentina	0.46	3,837.5	1.5	19.2	13.5	5.7	15.3	352.7	-4.6	12.0	0.2	17.0	-1.2	4.5	100.9	0.7	1.4
Peru	0.29	1,124.9	2.3	22.7	17.9	4.8	13.4	486.4	-3.9	8.9	0.2	32.3	0.0	3.5	55.8	0.4	0.5
Negative-growth countries 3/																	
Venezuela	-0.02	2,891.8	2.9	21.7	8.7	13.0	11.1	20.9	-1.9	11.5	0.3	52.2	6.7	-1.8	42.2	0.2	0.5
Honduras	-0.02	576.2	3.6	21.4	11.8	9.6	3.1	10.0	-6.7	8.3	0.2	67.1	2.3	-2.1	18.2	0.1	0.7
Group averages																	
High-growth countries 1/	2.08	1,521.0	2.3	21.7	15.4	6.4	12.4	75.0	-2.1	12.2	0.2	53.3	0.7	7.4	27.0	0.2	0.5
Medium- to low-growth countries 2/	0.48	1,433.3	2.3	17.3	11.9	5.5	12.0	277.2	-3.7	9.9	0.2	38.6	0.6	2.1	55.8	0.5	0.6
Negative-growth countries 3/	-0.02	1,734.0	3.2	21.6	10.2	11.3	7.1	15.4	-4.3	9.9	0.2	59.6	4.5	-1.9	30.2	0.1	0.6
All countries	1.36	1,520.3	2.4	20.4	13.7	6.7	11.6	127.5	-2.9	11.2	0.2	49.7	1.1	4.7	35.8	0.3	0.5

Source: Mexico: 1997 Recent Economic Development (SM/97/211), Chapter V.

Note: YGPC = Growth of real per capita GDP; Y0 = GDP in U.S. dollars/total population; PG = Population growth; TIY = Total gross capital formation/GDP; PIY = Private gross capital formation/GDP; GIY = Public gross capital formation/GDP; SEC70 = Percentage of "secondary school attained" in the total population in 1970; INFL = Percentage change in CPI; DEFYI = Central government deficit/GDP (- if surplus); XG = Percentage change in value of exports of goods; STRUC = Structural change (dummy variable: 1 since the structural change began); OPEN = Measure of openness: (exports + imports of goods and services)/GDP; TTG = Percentage change in the external terms of trade (goods and services); RERG = Growth of real effective exchange rate; BMP = Black market premium; CRI = Government crisis; RIO = Riots.

1/ Countries with real income per capita growth rates greater than or equal to 1 percent per year.

2/ Countries with real income per capita growth rates between 0 and 1 percent per year .

3/ Countries with negative real income per capita growth rates between 0 and minus 1 percent per year.

Table 3. Country Averages of Selected Variables, 1969-95

Country	LIFE	ILLIT	PRIC	SEC	SECC	HIGH	HIGHC	TYR	PYR	SYR	HYR	REV	ANT	CAB	STR	WAR
High-growth countries 1/																
Brazil	63.2	23.6	10.5	6.5	2.5	5.0	3.4	3.1	2.2	0.7	0.2	0.0	0.6	0.2	0.4	0.9
Colombia	66.0	15.2	11.6	15.4	6.0	4.5	3.1	3.8	2.6	1.0	0.2	0.2	0.5	0.6	0.4	0.9
Ecuador	64.2	19.3	21.5	10.5	4.9	8.8	6.0	4.6	3.3	1.0	0.3	0.3	0.3	0.4	0.6	0.1
Dominican Republic	65.1	23.6	7.5	10.4	3.1	4.9	3.3	3.2	2.4	0.6	0.2	0.1	0.9	0.3	0.6	0.3
Paraguay	66.5	13.7	14.9	12.5	5.3	3.6	2.9	4.3	3.4	0.8	0.1	0.0	0.3	0.0	0.0	0.0
Chile	69.0	8.4	13.4	25.6	11.1	6.7	4.6	5.8	4.1	1.5	0.2	0.2	2.5	0.4	0.5	0.5
Panama	70.3	14.9	19.8	21.9	11.2	9.1	6.2	5.8	3.9	1.5	0.3	0.2	0.9	0.6	0.3	0.0
Uruguay	70.8	4.9	20.0	21.5	6.3	7.9	5.4	6.0	4.2	1.5	0.3	0.0	0.5	0.3	0.6	0.3
Costa Rica	72.9	8.7	15.0	10.0	4.2	8.6	5.8	4.6	3.5	0.8	0.3	0.0	0.2	0.3	0.1	0.0
Mexico	66.9	17.3	17.2	12.5	5.6	5.5	3.3	4.2	3.1	0.9	0.2	0.0	0.5	0.2	0.1	0.3
Medium- to low-growth countries 2/																
Guatemala	59.3	49.4	7.3	5.5	1.6	2.5	1.7	2.1	1.7	0.3	0.1	0.5	1.0	0.4	0.3	1.0
Bolivia	53.4	29.4	8.7	16.2	6.4	6.3	4.3	3.9	2.6	1.2	0.2	0.8	1.1	1.2	1.1	0.5
El Salvador	60.6	33.6	10.5	5.8	2.4	3.4	2.3	2.9	2.3	0.4	0.1	0.5	0.9	0.5	0.3	0.8
Argentina	69.8	5.7	30.4	19.2	8.1	7.2	4.4	6.6	5.2	1.1	0.2	0.5	1.7	0.7	1.9	1.1
Peru	59.5	19.5	14.3	16.3	7.9	9.3	6.3	4.8	3.3	1.1	0.3	0.3	0.6	0.4	0.8	0.6
Negative-growth countries 3/																
Venezuela	68.6	15.0	10.7	14.7	6.1	7.2	4.9	4.2	3.0	0.9	0.2	0.1	0.3	0.5	0.1	0.3
Honduras	60.6	35.3	9.0	7.2	4.4	2.3	1.6	2.7	2.2	0.4	0.1	0.2	0.9	0.5	0.2	0.3
Group averages																
High-growth countries 1/	67.5	15.0	15.1	14.7	6.0	6.5	4.4	4.5	3.3	1.0	0.2	0.1	0.7	0.4	0.4	0.3
Medium- to low-growth countries 2/	60.5	27.5	14.3	12.6	5.3	5.7	3.8	4.0	3.0	0.8	0.2	0.5	1.0	0.6	0.9	0.8
Negative-growth countries 3/	64.6	25.2	9.8	11.0	5.2	4.8	3.2	3.4	2.6	0.7	0.2	0.1	0.6	0.5	0.1	0.3
All countries	65.1	19.8	14.3	13.6	5.7	6.1	4.1	4.3	3.1	0.9	0.2	0.2	0.8	0.5	0.5	0.5

Source: Mexico: 1997 Recent Economic Development (SM/97/211), Chapter V.

Note: LIFE = Life expectancy at birth; ILLIT = Overall illiteracy rate, as a percentage of the population over 15 years old; PRIC = Percentage of "primary school complete" in the total population; SEC = Percentage of "secondary school attained" in the total population; SECC = Percentage of "secondary school complete" in the total population; HIGH = Percentage of "high school attained" in the total population; HIGHC = Percentage of "high school complete" in the total population; TYR = Average school years in the total population; PYR = Average years of primary schooling in the total population; SYR = Average years of secondary schooling in the total population; HYR = Average years of high school education in the total population; REV = Revolutions; ANT = Antigovernment demonstration; CAB = Major cabinet changes; STR = General strikes; WAR = Guerrilla warfare.

1/ Countries with real per capita growth rates greater than or equal to 1 percent per year.

2/ Countries with real per capita growth rates between 0 and 1 percent per year

3/ Countries with real per capita growth rates between 0 and minus 1 percent per year.

Honduras, which is classified as a negative–growth country, is excluded from the comparator groups.

The average values of Honduras's policy–related variables— *inflation*, *central government fiscal deficit as percent of GDP*, *export growth*, *structural change*, and measures of *openness* and *black market premium*—compare favorably with the average values for the comparator groups. Average inflation in Honduras at 10 percent is much lower than that in high-growth countries (75 percent) and in medium– to low–growth countries (277 percent). The same is true for the average black market premium, which is 18 percent for Honduras, compared with 27 percent and 56 percent for the two sample groups, respectively. Furthermore, the Honduran economy is generally more open. It has had higher central government fiscal surpluses, higher export growth rates, and similar indices of structural changes than those of the two comparator groups.

The behavior of the *external terms of trade* and the *real effective exchange rate* have tended to foster growth. Honduras's external terms of trade improved on average 2.3 percent, compared with about 0.6 percent in the two control groups. On average, the lempira depreciated in real terms by 2.1 percent, compared with average real appreciations of the currencies of high-growth countries of 7.4 percent and average real appreciation of the currencies of medium- to low-growth countries of 2.1 percent.

The value of proxies for *political uncertainty* in Honduras relative to those of the comparator groups suggest that the degree of political uncertainty in Honduras is not

hampering growth. For example, the index of *government crisis* for Honduras (0.1) compares favorably with those for high-growth countries (0.2) and medium– to low–growth countries (0.5). Other variables proxying political uncertainty[4] also compare favorably with those of the comparator groups. Thus, given that Honduras's policy– and efficiency–related variables performed well relative to those in the two comparator groups, the offsetting factors driving the country's low growth rates would have to be explained by low productivity of labor and capital. This confirms the indication of low input productivity obtained in the growth accounting calculations.

Low labor productivity is usually attributed to low indices of human capital (education, skills, and health). Honduras has much lower indices of *education* than the two control groups. For example, the *illiteracy rate* in Honduras (35 percent) is higher than the of the two control groups: 15 percent and 28 percent, respectively; and the percentage of *primary school completed in the total population* is lower in Honduras at 9 percent, than that in the comparator groups at about 15 percent for each.[5] Other indices corroborate Honduras's low level of education (see Table 3). The low education level of mature workers could be gauged by examining their school attendance, where Honduras has the worst record among all the countries in the sample. Honduras's percentage of *secondary school attained in the total*

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[4] These include riots, major cabinet changes, strikes, revolutions, and guerrilla warfare.

[5]The Pan American Health Organization (PAHO) reports that in 1995, the illiteracy rate in Honduras was 25 percent, compared with an average of 14 percent in Latin America.

population in 1970 was 3 percent compared with 12 percent for each of the comparator groups.

A recent United Nations draft document reports that in spite of the current high attendance rate (84.7 percent of children of school age are enrolled in elementary school), the *quality* of primary education is low because of: high rates of grade repetition; desertion; low terminal efficiency; inadequate teaching materials; and high turn–over and absenteeism rates of teachers. The document also reports that in 1996, less than 30 percent of children of elementary school age completed the six-year cycle of primary school, and that it took on average 9 years to complete the cycle. Furthermore, about 80 percent of the primary schools have only one teacher, and pre–primary school education programs only cover one-fourth of children of that age.

Regarding investment, the *quantity* appears to be adequate, while the *quality* seems to be low. *Gross capital formation as a percentage of GDP* in Honduras is 21.4 percent, which is similar to that of high-growth countries (21.7 percent) and higher than that of medium– to low-growth countries (17.3 percent). Empirical studies have found that investment in physical infrastructure, particularly in transport and communication, and in institutional infrastructure such as more effective property rights and judicial system, foster growth, but that public investment in other areas generally does not. Public investment as percentage of GDP in Honduras (9.6 percent) is higher than that of the two control groups: 6.4 percent and 5.5 percent, respectively.

Time–series analysis of human and physical capital in Honduras

a. Human capital

The levels of education by cohorts and for various years were compiled from surveys that the Statistics Office has conducted twice a year since 1988 (Table 4).

Table 4. Honduras: Levels of Education by Cohorts

Panel A: persons without schooling as percentage of total persons in their cohort

Cohorts	1988	1992	1997
20 - 29	14.6	10.1	10.7
30 - 44	23.3	17.9	16.5
45 - 59	47.5	38.9	32.3

Panel B: persons with either incomplete or complete primary school as percentage of total persons in their cohort

Cohorts	1988	1992	1997
20 - 29	59.8	57.2	55.9
30 - 44	59.3	57.6	55.2
45 - 59	44.9	49.1	51.8

Panel C: persons with either incomplete or complete high-technical school as percentage of total persons in their cohort

Cohorts	1988	1992	1997
20 - 29	21.3	26.7	26.7
30 - 44	13.2	19.1	22.9
45 - 59	5.8	9.7	12.8

Source: Statistics Office of Honduras, "Encuesta Permanente de Hogares de Propositos Multiples," various issues.

These statistics reveal that the level of education of the labor force in Honduras is low, and the rate of improvement in the level of education has slowed in the last five years. Panel A

shows that illiterate persons as a percentage of total population in each cohort decreased substantially from 1988 to 1992 (an advance in literacy); however, the rate of improvement subsided from 1992 to 1997. A similar concern is revealed when considering persons with either incomplete or complete primary school. Panel B shows the number of persons between the ages of 20 and 44 years with some years of primary school to have decreased relative to the total population since 1988. Also, as shown in Panel C, the number of persons with some years of high–technical school relative to the total population in each cohort has improved from the low level it reached in 1988, but the rate of progress has slowed during the last five years.

The health and nutrition of the Honduran population has improved in the last five years, partly because of improved delivery of these services in the poorest regions of the country.[6] PAHO reports that in Honduras life expectancy at birth increased from 61 years in 1983 to 68 years in 1995 (compared with an average of 69 years in Latin America), and that infant mortality decreased from 79 per 1,000 in 1983 to 44 per 1,000 in 1995 (compared with an average of 37 per 1,000 in Latin America).

b. Physical capital

As already noted, the quantity of investment in Honduras, as measured by the ratio of gross fixed capital formation (GFCF) at current prices as percentage of GDP (20.2 percent on average in 1970–97) seems to be adequate when compared with high–growth–performing

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[6] Honduras's central government expenditures on health as percentage of GDP averaged 2.6 percent per year during 1992–95 and fell to 2.1 percent in 1996.

countries, but the quality of investment does not. Table 5 shows the ratios of GFCF at constant prices to real GDP for the private and public sectors and for construction and machinery.

Private GFCF as percentage of GDP decreased in the 1980s but picked up in the early 1990s. Private investment in machinery relative to total private investment has fallen since the late 1970s. From the data presented in Table 5, it can be inferred that private investment in machinery as a percentage of total private investment was on average 72 percent in the period 1978–81. It fell to an average of 53 percent during 1982–93 and rose again to an average of 64 percent during 1994–97. Surveys on private investment in construction conducted by the Central Bank of Honduras indicate that its composition was less prone to growth, because a larger proportion of construction was in the residential sector rather than in commercial or industrial activities.

Table 5. Honduras: Gross Fixed Capital Formation at Constant Prices

(In percent of real GDP, four-year averages)

	1978–81	1982–85	1986–89	1990–93	1994–97
Total GFCF	**21.9**	**16.5**	**15.0**	**19.7**	**22.5**
Private GFCF	**13.4**	**7.0**	**9.4**	**11.6**	**14.8**
Construction	3.8	3.4	4.4	5.1	5.3
Machinery	9.6	3.6	5.0	6.5	9.5
Public GFCF	**8.5**	**9.5**	**5.6**	**8.1**	**7.7**
Construction	7.4	8.5	4.9	7.3	5.0
Machinery	1.2	1.0	0.7	0.7	2.7

Source: Central Bank of Honduras, National Accounts Division.

Public GFCF was largely devoted to construction rather than to machinery, although in recent years the trend seems to be changing. During 1978–93, public GFCF averaged 7.9 percent of GDP, of which construction and machinery were 7 percent and 0.9 percent of GDP, respectively. During 1994–97, public GFCF was about the same level, but construction and machinery were 5 percent and 2.7 percent of GDP, respectively.

The composition of public GFCF reveals that during 1978–93 infrastructure was on average about 60 percent of total public GFCF, and fell to an average of about 34 percent in 1994–96 (Table 6). Public GFCF in infrastructure relative to total public GFCF is rather low for a country like Honduras, which has insufficient infrastructure. During 1978–93, public GFCF in industrial and transport machineries was on average about 8 percent of total public GFCF, and it increased substantially to about 31 percent in 1994–96.

Table 6. Honduras: Composition of Public Gross Fixed Capital Formation

(Four–year averages)

	1978–81	1982–85	1986–89	1990–93	1994–96
Total public GFCF	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Construction	**86.0**	**88.5**	**85.6**	**90.4**	**63.3**
Infrastructures 1/	56.1	70.6	51.5	61.2	33.9
Other 2/	29.9	17.9	34.1	29.2	29.4
Machinery	**14.0**	**11.5**	**14.4**	**9.6**	**36.7**
Industrial and transport	8.5	8.0	8.1	6.0	30.7
Other machineries	5.5	3.5	6.3	3.6	6.0

Source: Central Bank of Honduras, National Accounts Division.
1/ Water-related and sewerage projects, ports, airports and railways, electricity and telephone lines, streets, roads, and bridges.
2/ Public buildings and recreational facilities.

It is difficult to measure the stock of physical capital (or its degree of obsolescence) in Honduras. Depreciation (reported in the national account statistics) as percentage of GDP for the period 1985–97 was on average 6.4 percent (Table 2). This would imply a relatively low stock of capital in the economy,[7] which would tend to increase the marginal productivity of capital (MPK). An average MPK of, say, 20 percent (instead of 10 percent considered before) would imply, using the Solow growth accounting methodology, an average rate of technological change of -1.7 percent. If the average MPK in Honduras were higher than 11.2 percent, the rate of technological change would be negative. This scenario suggests that in addition to low human capital, Honduras has been also lagging in technological progress vis–a–vis the rest of the world.

IV. Policy Recommendations

The analysis described above indicates that while other factors—the slow pace of privatization, ineffective property rights, weak judicial system, and inappropriate concession laws—have played an important role, the low productivity of labor and capital accounts for much of the mediocre growth performance in Honduras over the past three decades. Therefore, the main policy issue arising out of the analysis is that there is a clear need to correct these weaknesses in productivity in a sustained manner so that Honduras might achieve the higher rates of growth needed to have a lasting effect on poverty. Improving the productivity of the labor force is a long–term endeavor that requires policy action in the areas of public

[7]A depreciation rate of the stock of capital of 10 percent per year implies a stock of capital of 60 percent of real GDP.

expenditures and structural reforms. In general, public expenditures on improving the quality of education and health have direct beneficial effects on human capital. In particular, cost–benefit studies have established that public investment in lower levels of education yield higher social rates of return than those in higher levels of education. Therefore, Honduras's overall human capital could benefit from shifting resources from university education toward primary education and technical training.[8]

Redirecting resources from university education toward lower levels of education would require a marked shift in policy, which could include eliminating the current requirement that a fixed proportion of government revenue be allocated to the national university.[9] The saving achieved from this shift in policy could be used to improve and expand primary education in the country's poorest regions. Maximizing the benefit from a shift in resources toward primary education would require specific steps (such as well–targeted subsidies to eligible families) to ensure that students do not drop out of school in order to work and support their families, and that the health and nutrition of children and mothers of school age children are safeguarded. In this connection, the government's current approach appears to be

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[8] A recent United Nations document on Honduras reports that "universities, with only 4 percent of the total student population, receive 29 percent of the total budget allocated to education." This would imply that spending on university education per university student is about 10 times the spending on non–university education per non–university student. The document also reports that "adult education programs, in a country where illiterate persons comprise 30 percent of the total population, receive one percent of the total budget for education; that high schools only exist in the most developed cities and regions; and that, in general, the quality of education offered by those schools is considered to be poor."

[9]Currently the Honduran National University receives earmarked transfer equivalent to 6 percent of the total fiscal revenue. The government recognizes that a successful fiscal policy will depend on tackling the rigidities that derive from earmarking and it started discussions with university authorities to improve the use of resources.

appropriately–focused on improvements in nutrition and disease prevention through local clinics and health centers, especially in the poorer areas.

In Honduras, in the last three decades, the behavior of public and private gross fixed capital formation as percent of GDP (see Figure A–3) seems to indicate that public investment has not been sufficiently productive, and has crowded out private investment. Increasing the productivity of capital is crucial to growth, and there is a need for the government to continue to implement policies aimed at: (i) privatizing state enterprises (such as those involved in telecommunications and electricity); (ii) reducing tax rates on businesses to levels in competitor countries; (iii) setting up a framework (including legal safeguards) to encourage foreign investment in new activities such as tourism and infrastructure development; and (iv) redirecting public expenditure to activities that complement private investment, such as public spending in social areas as education and health.

The type of structural policy that is most likely to directly contribute to enhance the productivity of the labor force is the reform of the labor market so as to make it more flexible. Workers usually increase their productivity by learning new skills or perfecting old ones while on the job. Firms would be likely to hire and provide training to unskilled and young members of the labor force if they did not have to pay any of the training costs. And employees might be willing to pay these costs, by receiving wages below what they could receive elsewhere, since training raises their future wages. However, this mechanism is inhibited when labor laws entail excessive regulations and high costs of hiring and laying off workers, as is the case in Honduras. Currently, salaries are negotiated collectively and pay arrangements are generally unrelated to productivity. The employer must pay relatively high contributions to various funds for each employee (with the amount paid dependent on the employee's salary), despite the fact

that many of these funds are considered largely ineffective. In addition, employers must pay a severance payment equivalent to about 4 months of current salaries for each year of service of an employee at the time of termination of employment. Discussions between representatives of entrepreneurs and workers on a new labor code are now underway. As an efficient pension system is an important complement to a flexible labor market, Honduras should also focus on improving its current pension system by implementing a modern, capitalization–based system.

A flexible labor market would also induce firms to adopt more labor–intensive technologies, thus increasing the demand for labor. Higher demand for labor on the part of the Honduran private sector would help employing both new entrants to the labor force (resulting from relatively high rate of population growth) and public employees who are laid off as part of the public sector reform.

Hurricane Mitch of late October 1998, caused severe damages in Honduras, in terms of lives and capital, particularly such infrastructure areas as roads, schools, and medical centers. ECLAC estimates the direct damage to Honduras's capital stock caused by the hurricane at about US$2.5 billion (50 percent of GDP).[10] The abrupt reduction of Honduras's capital stock reinforces the paper's policy recommendations. For example, speeding up privatization, facilitating foreign and domestic investment, and modernizing the concession law would help to rebuild the stock of capital. Also, decisive steps to make the labor market more flexible, and to redirect public expenditures to primary school education and health would help to alleviate the dire effects on growth of the capital stock loss.

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[10] The projected rate of growth for 1999, originally at 5 percent, was revised to -3 percent.

V. Conclusion

Honduras has experienced a long period of low growth in real per capita GDP despite having a relatively high ratio of total investment to GDP. The experience of Honduras across time and in comparison with a sample of better–growth–performing countries in Latin America seems to indicate that the main constraints to growth facing Honduras are low levels of human capital and poor quality of private and public investment. The performance of policy– and efficiency–related variables, exogenous shocks, and proxies for political uncertainty seem to have had less of a negative influence on growth in Honduras than they have had in other countries in Latin America. Instead constraint on per capita growth in Honduras seem to have been caused more by the poor quality of labor and investment.

Higher labor productivity is crucial for generating sustainable per capita growth. But improving labor productivity is a long–term endeavor that will take time and resources to have a healthier, more educated, and skillful labor force. In addition to public investment in education and health, having a more flexible labor market also contributes to improving the skills of the labor force, as it reduces the cost to private firms of investing in employee training. Increasing the stock and productivity of capital is also crucial to growth. This requires (i) facilitating foreign (and domestic) investment; (ii) modernizing the concession law; (iii) improving the judicial system; (iv) speeding up privatization in communication, electricity, the pension system, ports, and airports; (v) upgrading prudential regulations and tightening supervision of the financial sector; (vi) further opening the economy; and (vii) eliminating remaining regulations to internal trade.

The effect of Hurricane Mitch reinforces the paper's policy recommendations. Honduras needs to reconstruct its infrastructure with the help of foreign aid and foreign investment; however, to achieve a positive and sustainable rate of growth of real GDP, Honduras needs also to improve the quality of labor and capital.

Figure A-1. Honduras: Growth Real Per Capita GDP
(In percent)

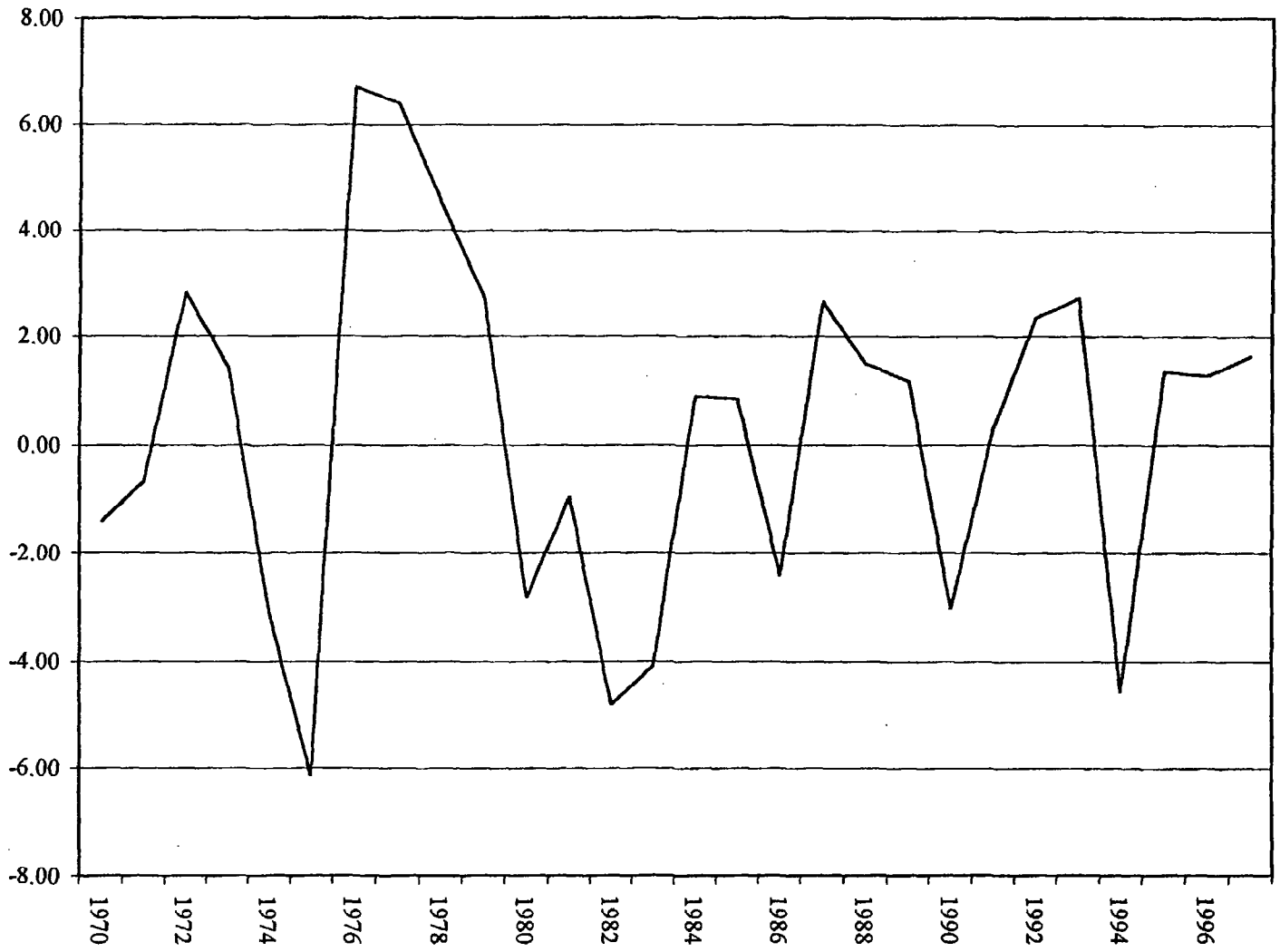


Figure A-2. Honduras: GDP Deflator
(In percent)

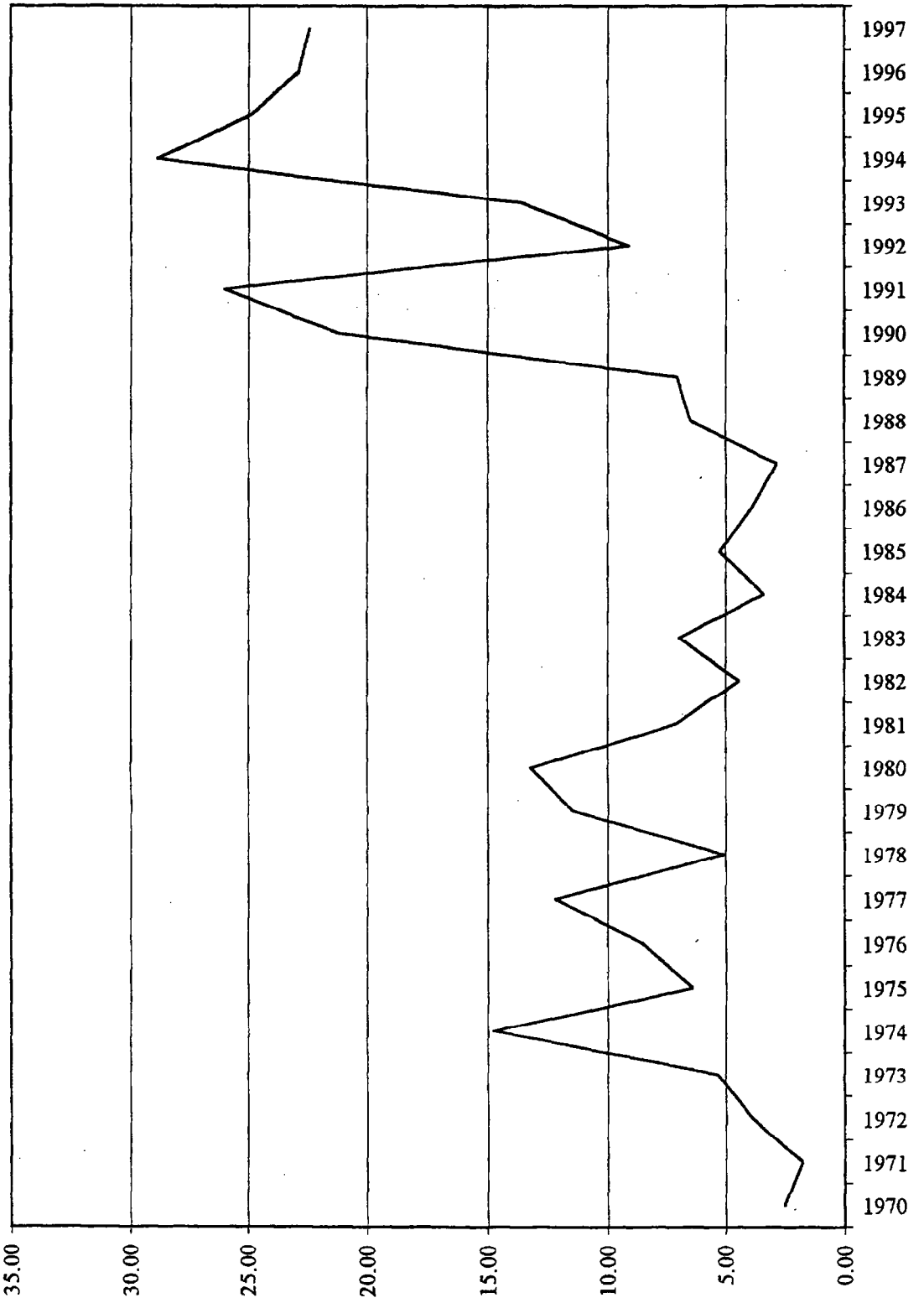
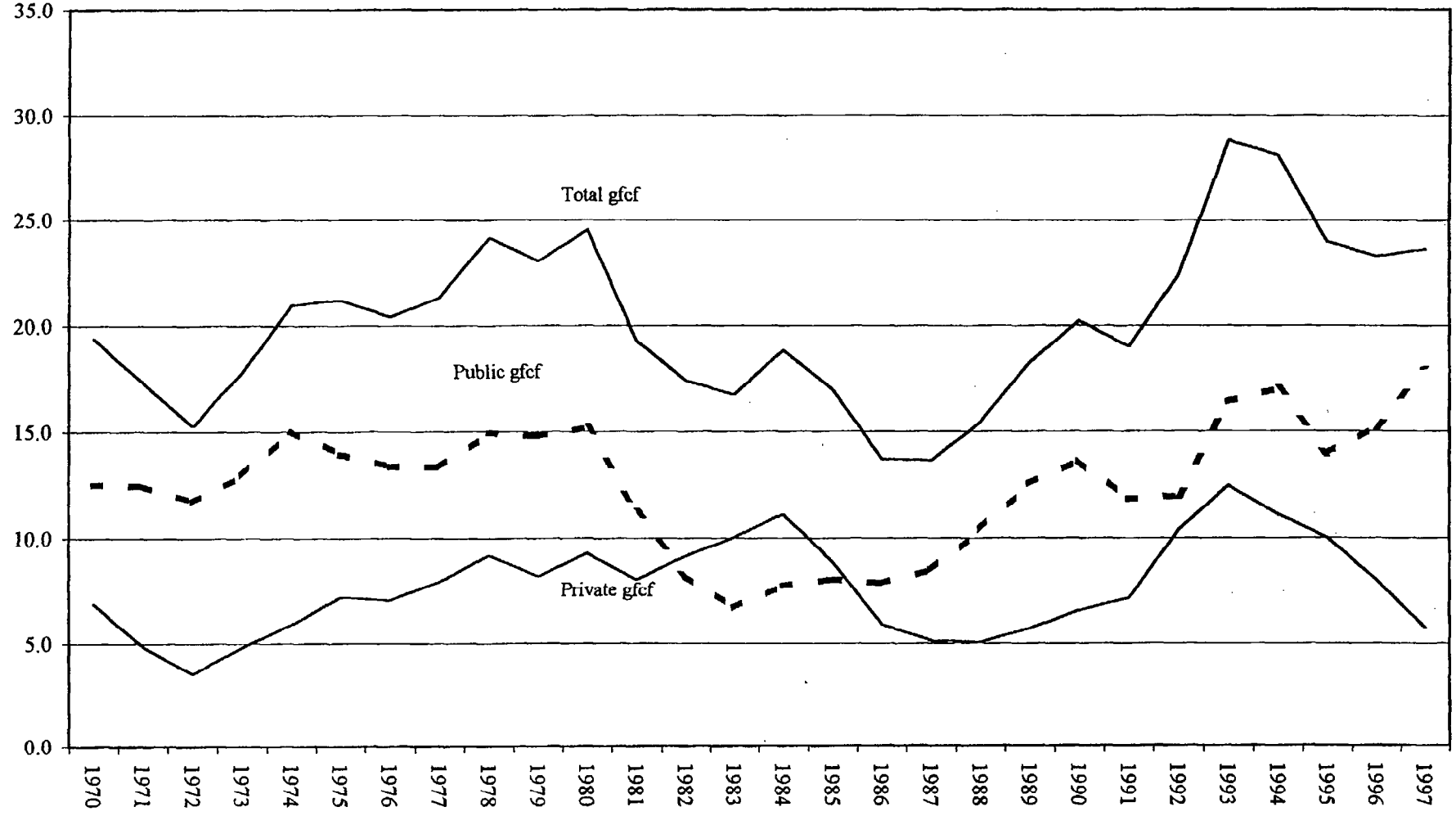


Figure A-3. Honduras: Gross Capital Formation
(In percent of GDP)



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