

**Economic Freedom and its Effect on International Capital Mobility within
Caribbean and Latin American Countries**

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1. Introduction

Following the results of Feldstein-Horioka (1980), researchers have been investigating the level of worldwide capital mobility exhibited by both developed and developing nations. Capital mobility can be defined as the flow of a country's savings, or factors of production, to investment opportunities where the marginal product of these factors are greatest. Countries will experience faster economic growth when able to efficiently reallocate resources where they are most valuable. I find that the Caribbean and Latin American region exhibits financial structure similar to results elsewhere in the literature. More specifically, there is evidence of low financial integration throughout the 1970s, but with increased levels of globalization there has been an increase in the level of capital mobility throughout the 1980s and 1990s.

Nations, just as individuals aim to maximize national utility. With perfect capital mobility, countries are able to smooth consumption and increase utility by borrowing or lending on international markets. Furthermore if capital mobility is high, then domestic investment should not be constrained by domestic savings. Any gap in a country's current account is a result of foreign flows of investment. Countries or regions with low internal return on capital compared to the international rate, or countries with a current account surplus, lend overseas and invest more. With no capital mobility, investment is limited to a nation's own domestic savings and income, with no room for increased utility. Regions with a high internal rate of return compared to the international rates should experience current account deficits under perfect capital mobility. These countries would borrow capital, and also experience investment greater than domestic savings due to the higher rate of return.

How much investment within Caribbean and Latin American nations stems from its own national savings? This paper adds to current economic literature by studying levels of capital mobility in these regions over the past three decades. I further analyze the extent to which restrictions on capital transactions and economic freedom affect levels of capital mobility within the Caribbean and Latin American region.

Controls on capital are government regulations restricting the flow of capital to or from a country. Controls on capital transactions can be one of the main deterrents of capital mobility. These controls could include discriminatory taxes on domestic resident's investments abroad, or taxes on foreign owned local businesses. Regulatory authorities may also exert controls on capital transactions through interest penalties, or through authorization requirements for any foreseeable capital movement.

I will also use measures of economic freedom to capture other methods of government induced restrictions. Economic freedom is the absence of government constraint on economic production, consumption, and investment within a nation. Economic freedom reduces investment risk, and allows capital to flow to the highest yielding opportunity. Government intervention or constraints on individual's optimal behavior will ultimately increase investment risk and further reduce levels of international capital mobility. Economic freedom is measured through indices capturing factors such as trade policy, monetary policy, the fiscal burden of government, banking and finance policy, property rights and economic regulation. Factor scores are calculated based on tariff rates, rates of inflation, tax rates, how heavily regulated are local financial institutions, and the degree to which governments enforce private property rights laws respectively. Low levels of economic freedom will hinder individual's economic goals and therefore reduce the level of international capital mobility within a country.

The paper is organized as follows: Section 2 reviews the literature. Section 3 summarizes the methodology used. A general description of the data is provided in section 4. Section 5 reports estimation results, followed by my conclusion in section 6.

2. Survey of Literature

With perfect world capital mobility, there should be no correlation between domestic savings and domestic investment within any one country. Feldstein and Horioka were the first to examine this idea empirically using cross sectional data for a sample of 21 OECD countries with data ranging from 1960 to 1974.

Savings as a right hand side endogenous variable will pose biases in such analysis. Feldstein and Horioka computed averages over long enough periods to offset any cyclical endogeneity. Instrumental variables for domestic savings were also used to reduce the endogeneity problem. Using both ordinary least squares and instrumental variables methods, Feldstein and Horioka obtained coefficient estimates between 0.86 and 0.94 for average investment-savings relationships. All coefficients estimates were not significantly different from 1 implying little or no world capital mobility.

Nlandu Mamingi (1997) uses annual time series data for 58 developing countries to examine the extent of capital mobility. Mamingi uses fully modified OLS techniques to correct for endogeneity and serial correlation. He reports a range of coefficients on national savings spanning from 0.12 to 1. Of the 58 countries 17 displayed perfect capital mobility, 12 displayed perfect capital immobility, while 24 were between both extremes. He pointed out that the variation in his results could be due to measurement errors in country's savings rate and may be less due to immobile capital. Such measurement errors would lead to a downward bias in results.

Annie Corbin (2001) uses panel data techniques to assess whether individual country specific effects exist when analyzing global financial movements. Using data from 1885 to 1992 on 10 OECD Corbin estimates pooled, between, fixed and random effects models to control for heterogeneity in savings-investment correlations. Corbin concludes that high savings-investment correlations are due to the existence of specific individual country effects.

3. Data Description

The study uses annual data for 17 Caribbean and Latin American countries from 1969 to 2000. Data on savings, investment, GDP, and population were obtained from the International Financial Statistics database. Gross savings was calculated as GDP less government consumption less household consumption. Gross investment was calculated as gross fixed capital formation plus changes in inventory.

Some descriptive statistics are reported in table 1

Table 1**Average Domestic Savings and Investment Ratios**

	Avg. Investment/GDP (1969-2000)	Standard Deviation	Avg. Savings/GDP (1969-2000)	Standard Deviation
Argentina	0.204	0.035	0.211	0.042
Belize	0.247	0.044	0.14	0.07
Bolivia	0.169	0.038	0.146	0.057
Chile	0.194	0.057	0.197	0.07
Colombia	0.19	0.03	0.21	0.058
Costa Rica	0.227	0.035	0.182	0.044
Dominican Republic	0.216	0.025	0.158	0.031
El Salvador	0.163	0.036	0.086	0.06
Guatemala	0.152	0.03	0.111	0.029
Honduras	0.233	0.067	0.18	0.051
Jamaica	0.245	0.053	0.178	0.051
Panama	0.238	0.07	0.269	0.054
Paraguay	0.229	0.037	0.158	0.06
Peru	0.203	0.052	0.192	0.058
Trinidad	0.232	0.061	0.29	0.083
Uruguay	0.14	0.018	0.142	0.026
Venezuela	0.247	0.078	0.296	0.068
Mean	0.208	---	0.185	---

There is observed variation in gross Savings/GDP and gross Investment/GDP rates among the seventeen countries averaged over the 32 year period. Averages over the 32 year period ranged from a low 0.140 Investment/GDP ratio in Uruguay to a high 0.247 in Belize and Venezuela. Savings/GDP averages also had large variation from a low 0.086 in El Salvador to a high 0.296 in Venezuela. From 1969 to 2000 ten of the seventeen countries on average were net importers of capital. Countries such as Belize, Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Paraguay, and Peru on average had investment/GDP ratios greater than their savings/GDP ratio.

On average Savings/GDP and Investment/GDP ratios for the Caribbean and Latin America are much lower than average Savings/GDP and Investment/GDP reported for the 21 OECD countries in the original Feldstein-Horioka study. In particular average gross Savings/GDP was 37% higher for the OECD

countries, and average gross Investment/GDP was 20% higher for the OECD countries in the original study.

Economic Freedom indices were obtained from the Heritage Foundation/Wall Street Journal Index of Economic Freedom. Scores range from 1 to 5. Lower scores represent greater levels of economic freedom, while higher scores represent greater levels of government intervention. Table 2 displays economic freedom scores for 1996. Guatemala enjoyed the greatest level of economic freedom, while Honduras and Venezuela were judged as having the highest levels of governmental inference in 1996.

Table 2
Index of Economic Freedom 1996

Argentina	2.58	Guatemala	2.50
Belize	2.74	Honduras	3.58
Bolivia	2.56	Jamaica	2.94
Chile	2.56	Panama	2.55
Colombia	3.10	Paraguay	2.94
Costa Rica	3.00	Peru	3.01
Dominican Republic	3.34	Trinidad	2.69
El Salvador	3.00	Uruguay	2.85
		Venezuela	3.58

Reliable global economic freedom indices are only available since 1996. As a result I use each country's 1996 economic freedom rating as their score for the 32 year time period. By using each country's 1996 rating for the full time period I am implicitly assuming that nation's societal habits do not change drastically over a short 32 year period. The economic freedom index is only used in regressions extending the basic Feldstein-Horioka equation by including measures of economic openness.

Data on restrictions of capital transaction were obtained from the International Monetary Fund's Annual Report on Exchange Arrangements and Exchange Restrictions. It draws on information available

to the IMF from a number of sources, including that provided in the course of official visits to member countries.

4. Methodology

Following Feldstein and Horioka I will measure the degree of international capital mobility by examining the relationship between the Investment/Gross Domestic Product (GDP) ratio, and the Savings/GDP ratio for each of 17 Caribbean and Latin American countries over the period 1969-2000 using varying estimation methods.

I first use time series data over the period 1969 to 2000 to estimate equation (1). I use OLS regressions for each country individually. Mamingi (1997) also uses time series data on 58 developing countries to obtain OLS estimates of savings-investment correlations for each country. I expect to see varying levels of capital mobility throughout the region.

Autocorrelation in the error term is considered and generalized least squares (GLS) analysis is also used to estimate equation (1) for each country over the entire period. Results are reported in table 3.

$$(1) \quad (I/Y)_i = C + b_1(S/Y)_i + \varepsilon_i$$

$(I/Y)_i$ = Investment/GDP ratio of country i

$(S/Y)_i$ = Savings/GDP ratio of country i

Next I create cross-sectional data by averaging Investment/GDP and Savings/GDP ratios for each country over each of four periods, 1969-2000, 1969-1979, 1980-1989, and 1990-2000. This is done to remove any business cycle fluctuations in either Investment/GDP or Savings/GDP ratio. Comparable to Feldstein and Horioka's original article I use this cross sectional data to estimate equation (1) using OLS techniques. I further use GLS methods to re-estimate equation (1) using the cross sectional data and panel

data separately. I expect to find low savings-investment correlations indicating high levels of capital mobility. Results are reported in tables 4 and 5 respectively.

I extend the basic Feldstein and Horioka equation (1) to include measures of country openness. With increased economic openness I expect capital to flow more freely. I include country population, a measure of economic freedom for each country, and a dummy variable, capturing restrictions on capital transaction within each country. More populated countries, countries enjoying greater levels of economic freedom, and countries with less restriction on capital transactions are countries with lower levels of risk. Thus my hypothesis is that high levels of these variables will result in higher levels of international capital mobility. I use panel data on each of the 17 countries over the time period 1969-2000, and for sub-periods 1980-1989, and 1990-2000 to estimate a GLS regression for equation (2). Results are reported in table 6.

$$(2) \quad (I/Y)_{it} = C + (b_1 + b_2\text{Population} + b_3\text{Free} + b_4\text{Restrictions}) (S/Y)_{it} + \varepsilon_{it}$$

I/Y_{it} = Average Investment/GDP ratio of country i at time t

S/Y_{it} = Average Savings/GDP ratio if country i at time t

Population = Population of country i

Free = Economic Freedom Index of country i

Restrictions = Restrictions on Capital Transactions Dummy

(1 if restrictions are in place, 0 otherwise)

My analysis further assumes that Caribbean and Latin American countries have country specific effects that change over time which influence the level of international capital mobility. Similar to Corbin (2001) I use panel data methods to estimate fixed effects and random effects regressions to eliminate any bias resulting from the existence of unobservable country specific effects. With perfect capital mobility I expect the coefficient on average savings to GDP ratio to be close to zero. I also extend the basic model to

include my measures of economic openness: population, economic freedom, and levels of restrictions on capital.

$$(3) \quad (I/Y)_{it} = a_i + g_t + b_1(S/Y)_{it} + \varepsilon_{it}$$

$$(4) \quad (I/Y)_{it} = a_i + g_t + (b_1 + b_2\text{Population} + b_3\text{Free} + b_4\text{Restrictions}) (S/Y)_{it}$$

a_i = country specific fixed effect

g_t = time specific fixed effect

Fixed and random effects estimates of equations (3) and (4) are presented in tables 7 and 8.

5. Results

I estimate equation (1) using time series data for each country separately over the 32 year time period. Results are presented in table 3. There are varying levels of international capital mobility among the 17 Caribbean and Latin American countries as measured through investment-savings correlations. Coefficients on Savings/GDP ratio ranged from a low 0.028 (Trinidad) to a high 0.862 (Honduras). Using OLS estimation, 3 of the 17 countries register perfect capital mobility. These countries are Bolivia, Uruguay, and Panama. These results compare favorably with those obtained by Mamingi (1997). Mamingi uses time series data to obtain OLS estimates of equation (1) for 58 developing countries. Mamingi also found varying levels of capital mobility throughout the sample. Countries included in both studies, namely, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Honduras, Jamaica, and Paraguay exhibit similar estimates of savings-investment correlations in each study.

Table 3

OLS and GLS estimates of Savings-Investment Relationship

$$(I/Y)_i = C + b_1(S/Y)_i$$

Country	OLS Results			GLS Results	
	C	b₁	D-W	C	b₁
Argentina	0.102* (.0263)	0.480* (0.122)	0.730	0.158* (0.314)	0.229 (0.141)
Belize	0.125* (0.023)	0.746* (0.161)	0.688	0.159* (0.162)	0.422* (0.162)
Bolivia	0.156* (0.019)	0.087 (0.119)	0.674	0.152* (0.021)	0.126 (0.113)
Chile	0.056* (0.016)	0.702* (0.075)	1.250	0.060* (0.020)	0.677* (0.094)
Colombia	0.226* (0.019)	-0.171*** (0.088)	0.746	0.243* (0.026)	-0.267** (0.113)
Costa Rica	0.164* (0.024)	0.343** (0.129)	0.803	0.182* (0.031)	0.225 (0.157)
Dominican Republic	0.135* (0.018)	0.510* (0.111)	1.255	0.167* (0.019)	0.312* (0.111)
El Salvador	0.140* (0.010)	0.260** (0.098)	0.577	0.149* (0.017)	0.143 (0.130)
Guatemala	0.098* (0.019)	0.471** (0.172)	0.795	0.132* (0.030)	0.171 (0.253)
Honduras	0.034 (0.024)	1.108* (0.131)	0.954	0.081** (0.038)	0.862* (0.198)
Jamaica	0.124* (0.026)	0.676* (0.676)	0.799	0.175* (0.034)	0.426** (0.167)
Panama	0.155** (0.062)	0.305 (0.227)	0.221	0.129** (0.050)	0.418* (0.107)
Paraguay	0.192* (0.017)	0.234** (0.103)	0.216	0.188* (0.025)	0.202** (0.085)
Peru	0.081* (0.023)	0.634* (0.115)	0.798	0.121* (0.031)	0.413* (0.143)
Trinidad	0.154* (0.037)	0.270** (0.124)	0.749	0.216* (0.045)	0.028 (0.131)
Uruguay	0.140* (0.018)	0.002 (0.128)	0.433	0.121* (0.020)	0.119 (0.127)
Venezuela	0.093 (0.056)	0.517* (0.185)	1.122	0.381* (0.086)	-0.43*** (0.233)

* significant at the 1% level, * * significant at the 5% level, *** significant at 10% level

Standard errors are shown in parenthesis. DW is the Durbin-Watson statistic for autocorrelation.

32 observations for each country regression

GLS parameter estimates for Savings/GDP were found to not be significantly different from zero for almost half of the selected countries, namely: Argentina, Bolivia, Costa Rica, El Salvador, Guatemala, Trinidad, Uruguay, and Venezuela. The GLS estimate for these 7 countries support theory of perfect international capital mobility. Interestingly, Colombia displays an inverse relationship between Savings/GDP and Investment/GDP ratios, with a coefficient of -0.027, which was significantly different from zero. Mamingi also reported a negative coefficient on Savings/GDP ratio for Colombia in his OLS results.

Table 4 reports cross-sectional OLS and GLS estimates for savings-investment correlations for sample periods 1969-2000, 1969-1979, 1980-1989, and 1990-2000.

Table 4
Ratios Averaged over Sample Period

$$(I/Y)_i = C + b_1(S/Y)_i$$

Sample Period	<u>OLS Results</u>			<u>GLS Results</u>	
	C	b ₁	R ²	C	b ₁
1969-2000					
N=17	0.140*	0.360*	0.399	0.140*	0.360*
S.E	(0.022)	(0.112)		(0.022)	(0.112)
1969-1979					
N=17	0.095*	0.606*	0.699	0.088*	0.641*
S.E	(0.021)	(0.104)		(0.019)	(0.080)
1980-1989					
N=17	0.121*	0.408**	0.313	0.110*	0.466*
S.E	(0.030)	(0.155)		(0.026)	(0.137)
1990-2000					
N=17	0.168*	0.244**	0.194	0.166*	0.244**
S.E	(0.026)	(0.126)		(0.025)	(0.125)

*significant at the 1% level, ** significant at the 5% level, ***significant at 10% level

Estimating equation (1) over the sample period 1969-2000 using cross-sectional data, I obtained results unlike those estimated by Feldstein-Horioka. The OLS estimate of b₁ for the entire sample is

0.360. However, results I obtain are relatively close to those of Feldstein-Horioka when comparing OLS estimates for similar time periods. Feldstein-Horioka reported a coefficient of 0.871 (which was not significantly different from one) for sub period 1970-1974 using cross-sectional OLS techniques. I found the coefficient on Savings/GDP to be 0.606 for a similar time period (1969-1979). However my estimate is statistically different from one. There was steady decline in the coefficient on Savings/GDP over time indicating increasing levels of capital mobility over the past three decades.

I estimated a quadratic model of equation 1 to test whether the Savings-Investment correlation becomes weaker as the savings rate increases. The coefficient on Savings/GDP squared was found to be negative and not significantly different from zero for each sub-period

I use pooled data to obtain GLS estimates for the entire sample. Gross Investment/GDP and gross Savings/GDP levels for each year and country are used in the estimation for each sample period. The results are presented in table 5.

Table 5
Panel Data GLS Estimates

$$(I/Y)_{it} = C + b_1(S/Y)_{it}$$

Sample Period	C	b₁	R²
1969-2000 N=544	0.161*	0.247*	0.277
S.E	(0.008)	(0.034)	
1980-1989 N=170	0.141*	0.296*	0.252
S.E	(0.013)	(0.060)	
1990-2000 N=187	0.193*	0.096	0.118
S.E	(0.014)	(0.059)	

*significant at the 1% level, ** significant at the 5% level, ***significant at 10% level

N – number of observations

By averaging Investment/GDP and Savings/GDP ratios over ten year periods, business cycle fluctuation in these ratios over time is accounted for in the cross-sectional data. As a result, less of the variation in Investment/GDP is being explained by Savings/GDP when using panel data. I obtain a significant reduction in b_1 for each sample period when estimating equation (1) using panel data for all countries compared to my cross-sectional estimates. Estimates in table 5 still reflect an increase in the level of capital mobility for sample period 1990-2000. The coefficient on Savings/GDP for 1980-1989 was 0.296, while this coefficient fell to 0.096 and was not significantly different from zero for 1990-2000.

Table 6 reports results after extending equation (1) to include variables capturing the openness of these 17 Caribbean and Latin American economies. I use panel data on the entire sample of countries for 3 sub-periods to estimate equation (2)

Table 6
Panel Data GLS Estimates

$$(I/Y)_{it} = C + (b_1 + b_2 \text{Population} + b_3 \text{Free} + b_4 \text{Restrictions}) (S/Y)_{it}$$

Sample Period	C	b_1	b_2	b_3	b_4	R^2
1969-2000 N=544	0.163*	0.112	-0.004***	0.060	---	0.332
S.E	(0.009)	(0.167)	(0.002)	(0.058)	---	
1980-1989 N=170	0.139*	-0.449**	-0.007**	0.280*	0.007	0.302
S.E	(0.014)	(0.245)	(0.003)	(0.085)	(0.050)	
1990-2000 N=187	0.199*	-0.559**	-0.011*	0.265*	-0.032	0.245
S.E	(0.014)	(0.238)	(0.002)	(0.092)	(0.041)	

*significant at the 1% level, ** significant at the 5% level, ***significant at 10% level

Standard errors are shown in parenthesis. R^2 is the coefficient of determination.

--- was not included in estimation

N – number of observations

Savings-Investment correlations for sub-periods 1980-1989, and 1990-2000 indicate perfectly mobile capital within the region. The coefficient on b_1 is -0.449 and -0.559 respectively, both of which are significant at the 5% level. The negative coefficient on b_1 supports the hypothesis that gross investment does not stem from its own savings within these 17 Caribbean and Latin American countries.

Size of the country, measured through population has a negative effect on Investment-Savings correlations for sub-periods 1980-1989 and 1990-2000. The coefficients for these periods were -0.007 and -0.011 respectively and were found to be statistically different from zero. This result implies that larger countries will display more freely flowing capital. Feldstein-Horioka included the logarithm of GDP to capture country size. They also found that the coefficient on this variable was negative, statistically different from zero, and very small.

The estimate of the coefficient on economic freedom is positive, 0.060, 0.280, 0.265, for sub-periods 1969-2000, 1980-1989, and 1990-2000 respectively. The coefficient b_3 was statistically different from zero for sub-periods 1980-1989 and 1990-2000. Economic freedom was indexed with smaller scores representing economically freer countries. The positive coefficient on economic freedom indicates that countries with lower economic freedom scores will display weaker savings-investment correlation. This result supports the hypothesis that economically freer countries will enjoy higher levels of capital mobility. Using share of trade in GDP as a measure of economic openness, Feldstein and Horioka found similar results in their OLS estimation using cross-sectional data. Feldstein and Horioka estimate of the effect of share of trade in GDP on savings-investment correlations was negative and statistically different from zero, implying more open economies will have more freely flowing capital.

Coefficients on restrictions on capital were not significantly different from zero for either sub-periods 1980-1989 and 1990-2000. GLS estimates of equation (2) using panel data for all countries found level of capital mobility was not significantly affected by countries having restrictions on capital transactions.

Fixed and random effects models were estimated for equation (1) using panel data for all countries. F-tests of the null hypothesis of no country specific fixed effects were rejected for each sub-period. Indeed there are unobservable country specific effects not being captured by the predictors that affect the level of international capital mobility within Caribbean and Latin American nations.

Table 7
Fixed and Random Effects using Panel Data

$$(I/Y)_{it} = a_i + g_t + b_1(S/Y)_{it}$$

	1969-2000	1980-1989	1990-2000
Fixed Effects (S.E)	N=544	N=170	N=187
b₁	0.442* (0.035)	0.343* (0.058)	0.101 (0.071)
Ho: No Group	$F_{16,526} = 10.488$	$F_{16,152} = 9.125$	$F_{15,153} = 13.255$
(P Value)	0.000	0.000	0.000
Random Effects (S.E)			
Constant	0.126* (0.009)	0.131* (0.013)	0.188* (0.015)
b₁	0.435* (0.033)	0.351* (0.054)	0.135** (0.063)
Hausman Test	0.540	0.160	1.070
(P Value)	0.464	0.694	0.300

*significant at the 1% level, ** significant at the 5% level, ***significant at 10% level

Standard errors are shown in parenthesis. F-statistic for the test of no group effects

N – Number of observations

Coefficients on Savings/GDP using fixed effects methods for sub-periods 1969-2000, 1980-89, and 1990-2000 were 0.442, 0.343, and 0.101 respectively. I find similar results when estimating a random effects model. The coefficients on Savings/GDP were 0.435, 0.351, and 0.135 for sub-periods 1969-2000, 1980-89, and 1990-2000 respectively using the random effects model. These results demonstrate increasing levels of capital mobility over time, identical to what was found in my previous estimations of equation (1).

Corbin (2001) also uses panel data methods to estimate fixed and random effects model for 10 OECD countries. She reported fixed and random effects coefficients on Savings/GDP of 0.47 and 0.48 respectively for sub-period 1946-1972. However Corbin's estimates for 1973-1992 (0.74, and 0.76) are much higher than both my 1980-89 and 1990-2000 estimates of savings-investment correlations. Note however that the economic structure of OECD countries compared with Caribbean and Latin American countries is very different, hence making any comparisons of fixed and random effects results difficult.

Table 8 reports results estimation of fixed and random effects models including measures of economic openness.

Table 8
Fixed and Random Effects using Panel Data

$$(I/Y)_{it} = a_i + g_t + (b_1 + b_2\text{Population} + b_3\text{Free} + b_4\text{Restrictions}) (S/Y)_{it}$$

	1969-2000	1980-89	1990-2000
Fixed Effects (S.E)	N=544	N=170	N=187
b₁	-0.095 (0.309)	1.075*** (0.645)	-0.411 (0.866)
b₂	0.007** (0.003)	0.001 (0.007)	-0.011** (0.005)
b₃	0.204*** (0.106)	-0.224 (0.230)	0.248 (0.306)
b₄	---	-0.148* (0.048)	-0.123* (0.037)
Ho: No Group	$F_{16,524} = 7.895$	$F_{16,149} = 8.803$	$F_{15,150} = 9.841$
(P Value)	0.000	0.000	0.000
Random Effects (S.E)			
Constant	0.127* (0.008)	0.129* (0.013)	0.190* (0.353)
b₁	0.019 (0.193)	0.147 (0.311)	-0.517 (0.354)
b₂	-0.006* (0.002)	-0.001 (0.003)	-0.008* (0.003)
b₃	0.161** (0.066)	0.100 (0.110)	0.279** (0.123)
b₄	---	-0.088** (0.044)	-0.100* (0.036)
Hausman Test	0.720	9.860	8.900
(P Value)	0.868	0.043	0.063

*significant at the 1% level, ** significant at the 5% level, ***significant at 10% level

Standard errors are shown in parenthesis. F-statistic for the test of no group effects

The variables determining savings-investment correlations had differing effects for each sub-period when estimating the fixed effects model. The estimate of b_1 was not statistically different from zero at the 5% level for any of the three sub-periods, but was significant at the 10% level and positive (1.075) for sub-period 1980-2000.

Population had a positive effect (0.007) on savings-investment correlations for the entire period 1969-2000. The coefficient on population (0.001) was found to not be significantly different from zero for sub-period 1980-1989, but was negative (-0.011) and significantly different from zero for sub-period 1990-2000. The coefficient on economic freedom was not significantly different from zero at the 5% level for any of the three sub-periods. Unobservable effects within the Caribbean and Latin American Region seems to be encompassing economic freedom when estimating the fixed effects model. Restrictions on capital transactions had a negative effect (-0.148, and -0.123) on savings-investment correlation for sub-periods 1980-89 and 1990-2000 respectively. This result indicates that country's engaging in control on capital transactions will exhibit greater levels of capital mobility.

Random effects estimates for sample period 1969-2000 were comparable to estimates using GLS methods. The coefficient on Savings/GDP (0.019) was not significantly different zero. The coefficient on population was -0.006, and the coefficient on economic freedom was 0.161, both of which were statistically different from zero. These results support the hypothesis that increased economic openness will increase the level of international capital mobility.

Results from Hausman Test on sample periods 1980-1989 and 1990-2000 suggest that Caribbean and Latin American countries display specific effects correlated with the explanatory variables. The random effects model is rendered efficient but inconsistent.

Conclusion

The economic structure of the Caribbean and Latin American region is somewhat different from most OECD countries. This paper however, presents evidence supporting results found when studying international capital mobility in major industrialized countries. I find that there are low levels of

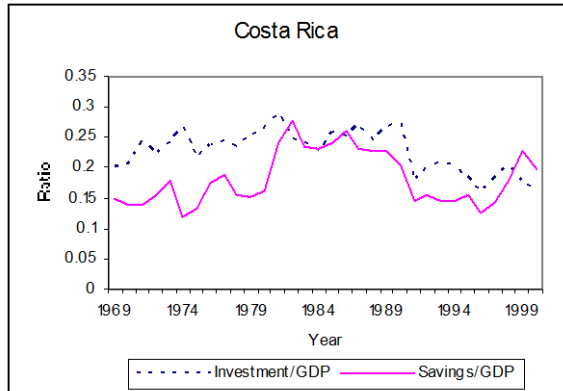
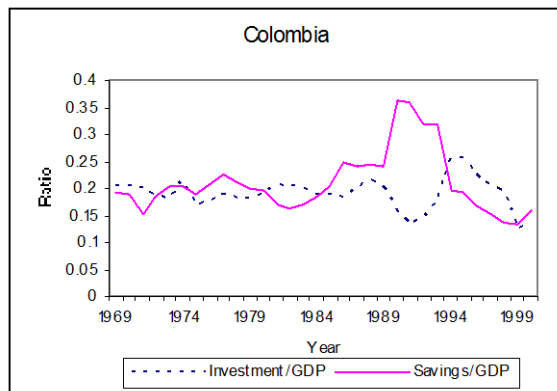
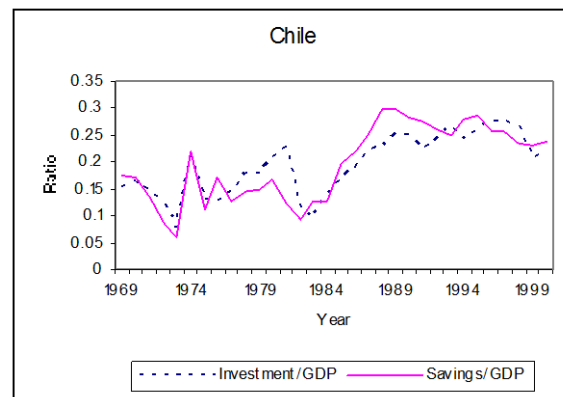
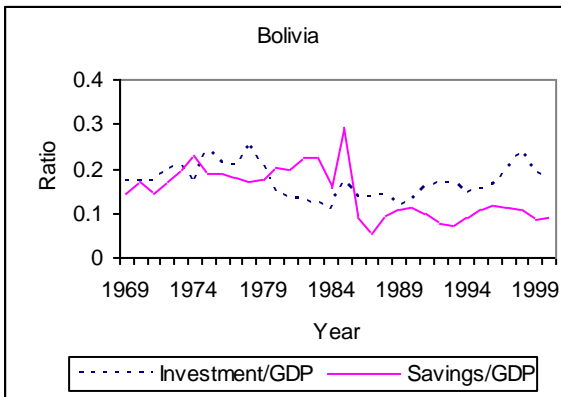
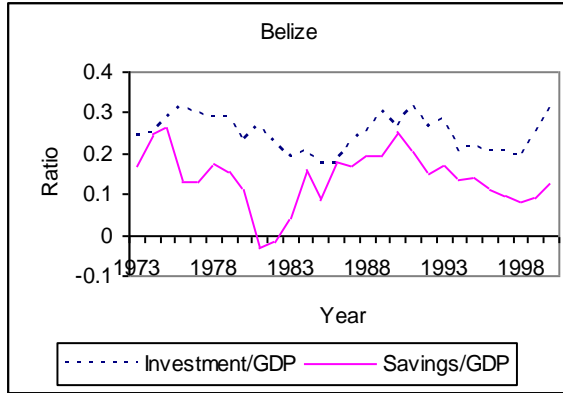
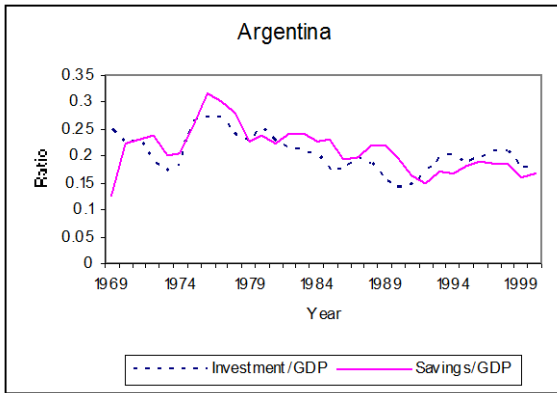
international capital mobility during the 1970s. Nevertheless capital has become increasingly mobile throughout latter decades of the century. Feldstein and Horioka also reported low levels of capital mobility throughout the 1970s, reflected by high savings-investment correlations during that decade.

Similar to Annie Corbin (2001), I find that there are unobservable country specific effects which influence the level of international capital mobility within a country. Thus heterogeneity of countries must be controlled for when analyzing savings-investment relationship for a cross section of countries.

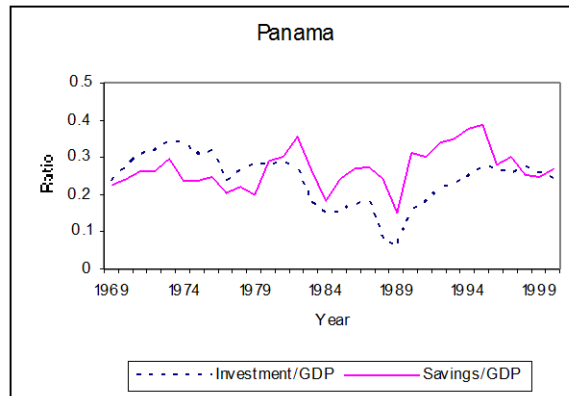
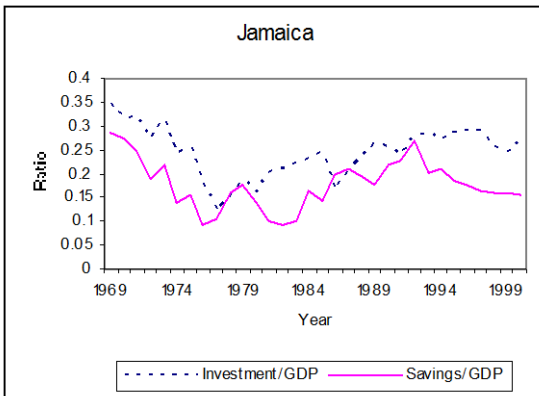
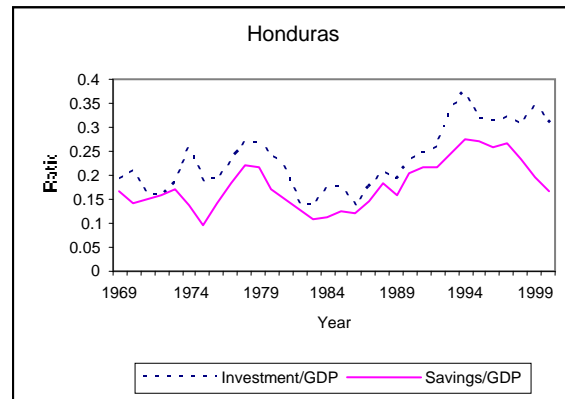
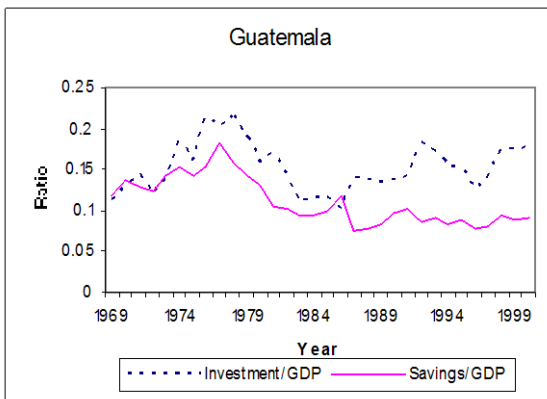
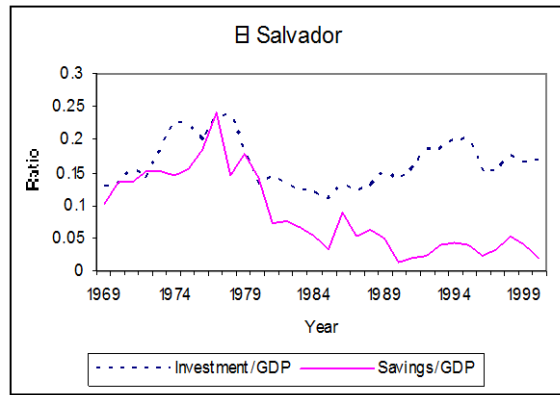
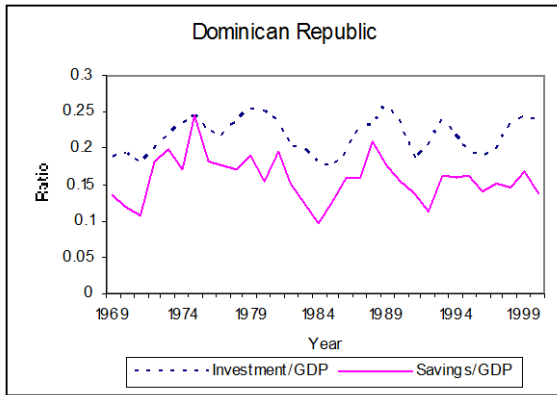
Economic openness is a key factor determining the level of international financial integration enjoyed by a country. My results further support Feldstein and Horioka's findings concluding that economically freer countries will enjoy higher levels of capital mobility. The analysis painted a less clear picture when considering the effect of country's restrictions on capital transactions on the level of capital mobility.

My further research will be aimed at studying those unobservable effects that influence global capital mobility, while asking the question: to what extent has increased financial integration and increased levels of economic freedom in the 1990s promoted economic growth?

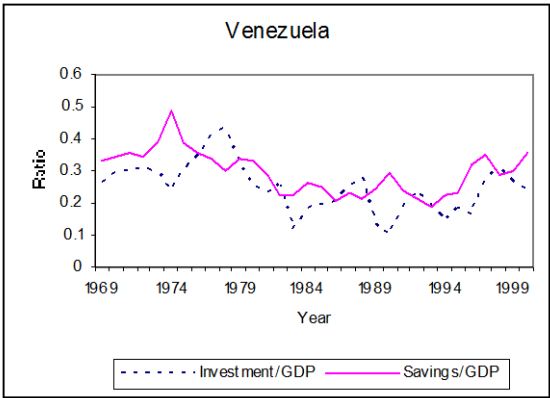
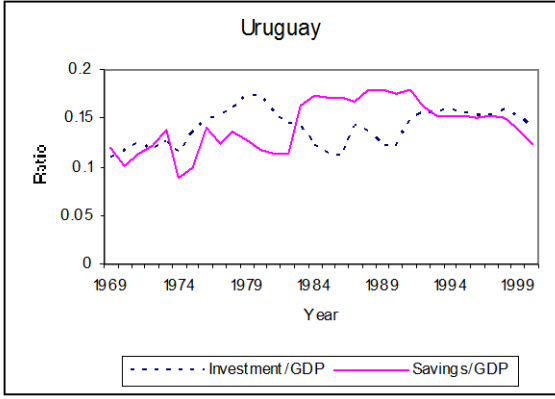
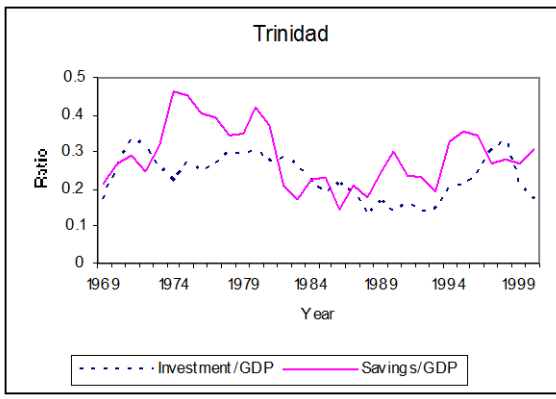
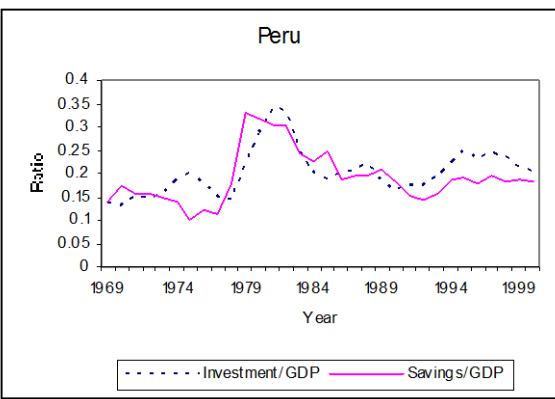
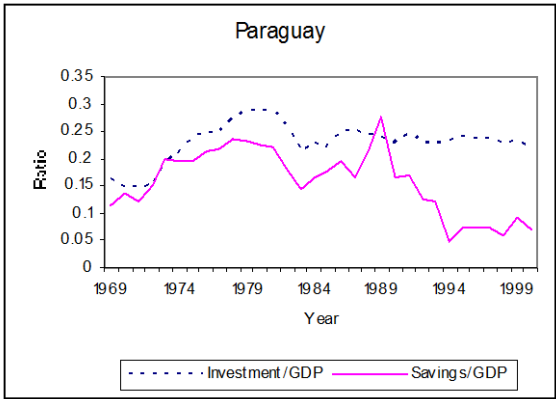
Investment-Savings Time Trend



Investment-Savings Time Trend



Investment-Savings Time Trend



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