

Economic Growth and Financial Liberalization

Geert Bekaert and Campbell R. Harvey*

1. Introduction

From 1980 to 1997, Chile experienced average real GDP growth of 3.8% per year while the Ivory Coast had negative real growth of -2.4% per year. Why? Attempts to explain differences in economic growth across countries have taken center stage in the macroeconomic literature again (see Barro and Sala-i-Martin (1995),¹ Jones (2000)²). Although there is no agreement on what the determinants are of economic growth, most of the literature has found evidence of conditional convergence. Poorer countries grow faster than richer countries, once it is taken into account that poor countries tend to have lower long-run per capita GDP, for example, because of the poor quality of their capital stock (both physical and human). Sachs and Warner (1995)³ have argued that policy choices, such as respect for property rights and open international trade, are important determinants of long-run growth.

Although the role of trade openness remains hotly debated (see Rodrik and Rodriguez (1998)⁴), there are some interesting differences between the two countries we mentioned. First, the Ivory Coast has a larger trade sector than Chile. Second, Chile liberalized its capital markets, in particular its equity market, to foreign investment in 1992. After the liberalization, it grew by 6.4% a year. The eighties and nineties witnessed a number of financial liberalizations. Given the recent currency crises and their adverse economic consequences, the role of financial liberalizations and foreign capital flows in the economic welfare of developing countries are being put in question. What effect did they have on growth? Our recent work with Christian Lundblad tries to answer this question.

2. Why would financial liberalization affect economic growth?

There are a number of channels through which financial liberalization may impact growth. First, foreign investors, enjoying improved diversification benefits, will drive up local equity prices permanently thereby reducing the cost of capital. Both Bekaert and Harvey (2000a)⁵ and Henry (2000a)⁶ marshal evidence that the cost of capital goes down after major regulatory reforms. Bekaert, Harvey and Lumsdaine (2000a)⁷ show that a capital inflow leads to a permanent positive price effect. Moreover, Bekaert and Harvey (2000a)⁸ and Henry (2000b)⁹ indicate that investment increases. If the additional investment is efficient, economic growth should increase. However, in the aftermath of the recent crises, some economists felt foreign capital had been wasted on frivolous

* Bekaert is the Leon G. Cooperman Professor of Finance and Economics at Columbia University's Graduate School of Business, New York, NY and Research Associate in the NBER's Program on Asset Pricing. Harvey is J. Paul Sticht Professor of International Business at the Fuqua School of Business, Duke University, Durham, NC and Research Associate in the NBER's Program on Asset Pricing.

consumption and wasteful investment, undermining the benefits of financial liberalization.

Second, there is now a large literature on how improved financial markets and intermediation can improve growth (for example, Bencivenga and Smith (1991)¹⁰) and financial liberalization may promote financial development. Furthermore, foreign investors may also demand better corporate governance to protect their investments hereby reducing the wedge between the costs of external and internal financial capital, and further increasing investment (see Rajan and Zingales (1999)¹¹ and Love (2000)¹² for an analysis of the link between financial development and these “financing constraints”).

3. Measuring the liberalization effect on economic growth

Most of the growth literature uses purely cross-sectional techniques to measure growth. The nature of our question forces us to introduce a temporal dimension into the econometric framework. In Bekaert, Harvey and Lundblad (2000)¹³, we propose a time series panel methodology that fully exploits all the available data to measure how much a financial liberalization increases growth. We regress future growth (in logarithmic form), averaged over periods ranging from 3 years to 5 years, on a number of pre-determined determinants of long-run steady state per capital GDP, such as secondary school enrollment, the size of the government sector, inflation and trade openness, and on initial GDP (measured in logarithms) in 1980. The right-hand side variables also include a liberalization indicator variable, based primarily on the analysis of regulatory reforms in Bekaert and Harvey (2000a)¹⁴ and (2000b)¹⁵.

To maximize the time-series content in our regressions, we use overlapping data. For example, both growth from 1981 to 1986 and growth from 1982 to 1987 are used in the same regression. The resulting correlation in the model's residuals is corrected for in the standard errors. The model is estimated by the General Method of Moments. The technique allows adjustments for correlations of residuals across countries and different variances of the residuals across countries and over time (heteroskedasticity).

The main statistic of interest is the t-statistic on the liberalization indicator variable. Since we have so few time-series data, we also conduct a Monte Carlo analysis to examine how well this statistic behaves in sample sizes similar to the ones available for our analysis, under the null of a zero liberalization effect. We do find that we have to raise the normal cut-off values of the t-statistics somewhat before we can conclude there truly is a statistically significant rejection of the null hypothesis of no liberalization effect.

4. The liberalization effect: magnitude and robustness

In Bekaert, Harvey and Lundblad (2000)¹⁶, we consider the liberalization effect in a small sample of 30 emerging and frontier markets as defined by the IFC. We confirm many of

the results present in the literature. For example, we only observe convergence (a negative coefficient on initial GDP) when variables controlling for long-run per capita GDP are included in the regression. We also observe that many variables have the wrong sign and seem to lack robustness across specifications, confirming the analysis in Levine and Renelt (1992)¹⁷. One variable delivers a consistently positive and mostly statistically significant coefficient: the liberalization indicator variable. Taken by itself, financial liberalization leads to an increase in average annual per capita GDP growth of anywhere from 1.5% to as large as 2.3 % per year. When we factor in a host of other variables that might also boost economic performance, improvements associated with financial liberalization still remain strong, 0.7 to 1.4% per year.

In Bekaert, Harvey and Lundblad (2001)¹⁸, we greatly expand our sample to 95 countries, which now also include countries that may not even have financial markets, as well as developed countries. The liberalization effect now has a cross-sectional component, measuring the difference in growth between segmented and financially open countries, in addition to the temporal dimension (countries before and after liberalization). It is this cross-sectional dimension that has been the main focus in the trade openness literature.

The expansion of our sample of countries strengthens our results. In examining a number of different samples (whose size depends on the availability of control variables), the financial liberalization effect is robust. We also consider an alternative set of liberalization dates. The main results are robust to these alternative dates. Further, we carry out a Monte Carlo experiment whereby one country's liberalization date is randomly assigned to another country. This allows us to test whether we are picking up some overall growth effect in the late 1980s and early 1990s (when the liberalization dates are concentrated). The Monte Carlo exercise shows that the liberalization dates are not useful explanators of economic growth when they are decoupled from the specific country to which they apply. We also show that the effect is not related to the world business cycle during these years.

5. The channels of growth

a) Components of GDP

In Bekaert, Harvey, and Lundblad (2001)¹⁹, we attempt to discover what drives the liberalization effect. To do so, we first confirm the results in Bekaert and Harvey (2000a) and Henry (2000b), showing that investment to GDP actually increases. We also find evidence that consumption to GDP does not increase after liberalization. Indeed, in a number of specifications, consumption significantly decreases. Given that we establish that GDP growth increases, the claims about frivolous consumption and inefficient investment cannot be generally true. We find that the trade balance decreases across all specifications. Both imports and exports increase after financial liberalizations - but imports increase more than exports. Interestingly, in our broadest sample, we find evidence of a smaller government sector after liberalization. However, in our analysis with more limited samples, there is little evidence that a

financial liberalization is associated with a change in the size of the government sector. In the remainder of the paper, we try to determine what variables capture the liberalization effect.

b) Financial liberalization and macroeconomic reforms

It is possible that financial liberalizations typically coincide with other more macro-oriented reforms (see Henry (2000a)²⁰) which provide the source of increased growth -- not the financial liberalizations. However, when we add variables capturing macroeconomic reforms, such as inflation and trade openness, the liberalization effect is mostly not affected.

c) Financial liberalization and financial market development

A second possibility is that financial liberalization is the natural outcome of a financial development process, and that, consistent with many endogenous growth theories, it is financial development that leads to increased growth. However, when we add a number of banking and stock market development indicators to our regressions, the liberalization effect is only marginally reduced. Moreover, we find that financial liberalization strongly predicts additional financial development, but that the decision to liberalize does not seem to be affected by the degree of financial development. Hence, it is likely that one channel through which financial liberalization increases growth is through its impact on financial development.

d) Financial Liberalization and the Cost of Capital

A third possibility is that the growth effect is a pure cost of capital effect. Unfortunately, the cost of capital effect is very difficult to measure for various reasons. First, as Bekaert and Harvey (1995)²¹ and Bekaert, Harvey and Lumsdaine (2000b)²² stress, liberalization induces a structural break in most financial data, making the use of a financial model to measure the change in the cost of capital post-liberalization very difficult. We use two imperfect proxies. Our first is the dividend yield minus its mean before liberalization (to capture cross-country differences in tax regimes). Bekaert and Harvey (2000a)²³ argue that the change in the dividend yield is a good measure of the permanent price effect that induces the lower cost of capital after liberalization. However, it may also measure improved growth opportunities. When we add the modified dividend yield to our explanatory variables, we find the liberalization effect is unaffected. The dividend yield variable has the right sign (decreases in the cost of capital lead to more economic growth), but it is only marginally significant.

Our second proxy for the cost of capital is the credit rating of the various countries. Erb, Harvey and Viskanta (1996)²⁴ argue that this measure captures the cross-section of expected returns well, especially in emerging markets. Unfortunately, it is also a measure of political instability, which has been shown to be related to economic growth in numerous studies. When we add the credit rating to our regressions, the

liberalization effect goes down, but not by much. The credit rating variable does have the expected sign and is highly significant.

e) Functional capital markets

A final possibility acknowledges the imperfection of capital markets, which drives a wedge between the cost of internal and external capital (see for example, Hubbard (1998)²⁵ or Gilchrist and Himmelberg (1998)²⁶), and makes investment sensitive to the presence of cash flows. Foreigners may demand better corporate governance that in turn reduces the wedge between external and internal costs of capital and drives up investment. Our instrument to capture this is a variable constructed by Bhattacharya and Daouk (2000)²⁷, who trace the implementation and enforcement of insider trading laws in a large number of countries. We find that the enforcement of insider trading laws has a positive effect on growth and is statistically significant in three of our four largest samples. Importantly, it does not diminish the impact of financial liberalizations on economic growth. Another reason to suspect that corporate governance matters for growth prospects is that we find larger liberalization effects for countries with an Anglo-Saxon legal system. La Porta et al. (1998) analyze the link between corporate governance and legal systems.²⁸

Conclusions

Numerous papers have examined the determinants of growth. Much analysis has focussed on the role of macroeconomic reforms and the development of the financial sector. Our research program has a simple message. It is not just the existence of capital markets that is important for growth prospects - it is crucial that these capital markets are liberalized to allow both foreign investors to participate and local investors to diversify their portfolios across borders.

Our research initiative shows that the financial liberalization effect is not subsumed by economic reforms or proxies for the development of capital markets and financial intermediation.

It is remarkable that no one before us has examined the impact of financial market liberalizations on growth prospects. Indeed, we conducted a simple experiment to assess the economic impact of liberalization. We considered a hypothetical country that moved from the 25th percentile to the median in the cross-sectional distribution of the variables that are usually associated with economic growth. For example, we suppose that a country jumps from the 25th percentile of secondary school enrollment to the median. We also assume that the country experiences a financial liberalization. Given the results of our estimation, the financial liberalization alone contributes 30% of the total increased growth. This is a very substantial contribution - especially considering the dramatic assumption of a quartile advance in other variables associated with economic growth.

Finally, the conditional convergence effect documented in the literature is much stronger once you allow for a financial liberalization. Our results suggest that a financial liberalization allows many countries to join the convergence club much faster.

Our work on understanding the channels of economic growth has just begun. We believe the next step is to examine firm level data. With these data, we will be able to more closely examine the response of investment and capital structure to financial liberalization. With firm specific expected cash flows, we will be able to disentangle the cost of capital and growth opportunity effects after financial liberalizations.

¹ Barro, R. and X. Sala-i-Martin, 1995, *Economic Growth*, McGraw-Hill, New York, NY.

² Jones, C. I., 2000, *Introduction to Economic Growth*, Norton.

³ Sachs, J. D. and A. M. Warner, 1995, Economic Reform and the Process of Global Integration, *Brookings Papers on Economic Activity*, 1-118.

⁴ Rodriguez, F. and D. Rodrik, 1999, Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence, NBER Working Paper 7081.

⁵ Bekaert, G. and C. R. Harvey, 2000a, Foreign Speculators and Emerging Equity Markets, *Journal of Finance* 55, 565-614.

⁶ Henry, P., 2000a, Stock Market Liberalization, Economic Reform, and Emerging Market Equity Prices, *Journal of Finance* 55, 529-564.

⁷ Bekaert, G., C. R. Harvey and R. Lumsdaine, 2000a, The Dynamics of Emerging Market Equity Flows, NBER working paper 7219.

⁸ Bekaert and Harvey, 2000a, op. cit.

⁹ Henry, P., 2000b, Do Stock Market Liberalizations Cause Investment Booms, *Journal of Financial Economics*, forthcoming.

¹⁰ Bencivenga, V. R., and B. D. Smith, 1991, Financial Intermediation and Endogenous Growth, *Review of Economic Studies* 58, 195-209.

¹¹ Rajan, R. and L. Zingales, 1998, Financial Dependence and Growth, *American Economic Review* 88, 559-586.

¹² Love, I., 2000, Financial Development and Financing Constraints: International Evidence from the Structural Investment Model, manuscript, Columbia University.

¹³ Bekaert, G., C. R. Harvey and C. Lundblad, 2000, Emerging Equity Markets and Economic Development, *Journal of Development Economics*, forthcoming.

¹⁴ Bekaert and Harvey, 2000a, op. cit.

¹⁵ Bekaert, G. and C. R. Harvey, 2000b, Capital Flows and the Behavior of Emerging Market Equity Returns, in Sebastian Edwards, *Capital Inflows to Emerging Markets*, NBER and University of Chicago Press, 159-194.

¹⁶ Bekaert, Harvey and Lundblad, 2000, op. cit.

¹⁷ Levine, R. and D. Renelt, 1991, A Sensitivity Analysis of Cross-Country Growth Regressions, *American Economic Review* 82, 942-963.

¹⁸ Bekaert, G., C. R. Harvey and C. Lundblad, 2001, Does Financial Liberalization Spur Economic Growth, NBER working paper, #xxxx.

¹⁹ Bekaert, Harvey and Lundblad, 2001, op. cit.

²⁰ Henry, 2000a, op. cit.

²¹ Bekaert, G. and C. R. Harvey, 1995, Time-varying World Market Integration, *Journal of Finance* 50, 403-444.

²² Bekaert, G., C. R. Harvey and R. Lumsdaine, 2000b, Dating the Integration of World Capital Markets, NBER working paper 6724.

²³ Bekaert and Harvey, 2000a, op. cit.

²⁴ Erb, C., C. R. Harvey and T. Viskanta, 1996, Expected Returns and Volatility in 135 countries, *Journal of Portfolio Management*, 22, Spring, 46-58.

²⁵ Hubbard, G., 1997, Capital Market Imperfections and Investment, *Journal of Economic Literature* 36, 3.

²⁶ Gilchrist, S. and C. Himmelberg, 1998, Investment, Fundamentals and Finance, *NBER Macroeconomics Annual*, MIT Press.

²⁷ Bhattacharya, U. and H. Daouk, 2000, The World Price of Insider Trading, *Journal of Financial Economics*, forthcoming.

²⁸ La Porta, R., F. Lopez-de-Silanes; A. Shleifer, and R.W. Vishny, 1998, Law and Finance, *Journal of Political Economy* 106, 1113-1155.