

Banco Central de Chile
Documentos de Trabajo

Central Bank of Chile
Working Papers

N° 196

Enero 2003

**THE ROLE OF FOREIGN DIRECT INVESTMENT
AND NATURAL RESOURCES IN ECONOMIC
DEVELOPMENT**

José De Gregorio

La serie de Documentos de Trabajo en versión PDF puede obtenerse gratis en la dirección electrónica: <http://www.bcentral.cl/Estudios/DTBC/doctrab.htm>. Existe la posibilidad de solicitar una copia impresa con un costo de \$500 si es dentro de Chile y US\$12 si es para fuera de Chile. Las solicitudes se pueden hacer por fax: (56-2) 6702231 o a través de correo electrónico: bcch@bcentral.cl.

Working Papers in PDF format can be downloaded free of charge from: <http://www.bcentral.cl/Estudios/DTBC/doctrab.htm>. Printed versions can be ordered individually for US\$12 per copy (for orders inside Chile the charge is Ch\$500.) Orders can be placed by fax: (56-2) 6702231 or e-mail: bcch@bcentral.cl.



BANCO CENTRAL DE CHILE

CENTRAL BANK OF CHILE

La serie Documentos de Trabajo es una publicación del Banco Central de Chile que divulga los trabajos de investigación económica realizados por profesionales de esta institución o encargados por ella a terceros. El objetivo de la serie es aportar al debate de tópicos relevantes y presentar nuevos enfoques en el análisis de los mismos. La difusión de los Documentos de Trabajo sólo intenta facilitar el intercambio de ideas y dar a conocer investigaciones, con carácter preliminar, para su discusión y comentarios.

La publicación de los Documentos de Trabajo no está sujeta a la aprobación previa de los miembros del Consejo del Banco Central de Chile. Tanto el contenido de los Documentos de Trabajo, como también los análisis y conclusiones que de ellos se deriven, son de exclusiva responsabilidad de su o sus autores y no reflejan necesariamente la opinión del Banco Central de Chile o de sus Consejeros.

The Working Papers series of the Central Bank of Chile disseminates economic research conducted by Central Bank staff or third parties under the sponsorship of the Bank. The purpose of the series is to contribute to the discussion of relevant issues and develop new analytical or empirical approaches in their analyses. The only aim of the Working Papers is to disseminate preliminary research for its discussion and comments.

Publication of Working Papers is not subject to previous approval by the members of the Board of the Central Bank. The views and conclusions presented in the papers are exclusively those of the author(s) and do not necessarily reflect the position of the Central Bank of Chile or of the Board members.

Documentos de Trabajo del Banco Central de Chile
Working Papers of the Central Bank of Chile
Huérfanos 1175, primer piso.
Teléfono: (56-2) 6702475, Fax: (56-2) 6702231

Documento de Trabajo
N° 196

Working Paper
N° 196

THE ROLE OF FOREIGN DIRECT INVESTMENT AND NATURAL RESOURCES IN ECONOMIC DEVELOPMENT

José De Gregorio
Consejero
Banco Central de Chile

Resumen

Este artículo analiza el rol de la inversión directa extranjera (IDE) en el crecimiento económico y, basado en estos resultados, discute si hay alguna racionalidad para políticas especiales que discriminan en favor de sectores particulares para atraer IDE y promover el crecimiento. En el ámbito sectorial, este trabajo también discute el rol de los recursos naturales sobre el crecimiento económico. Además se cuestiona la visión que tener recursos naturales es negativo para el crecimiento y el bienestar.

Abstract

This paper analyzes the role of FDI on economic growth, and discusses whether, based on these results, there is some rationale for special policies that discriminate in favor of particular sectors to attract FDI and to promote growth. At a sectoral level, this paper also discusses the role of natural resources on economic growth. The view that having natural resources is bad for growth and welfare is questioned.

This paper was prepared for an invited lecture on Foreign Investment at the 13th World Congress of the International Economic Association, Lisbon, Portugal. I am grateful to Alberto Naudon for valuable assistance and comments.

E-mail: jdegrego@bcentral.cl.

Introduction

Foreign direct investment (FDI) has long been a topic high on the policy agenda in emerging markets. The contribution of FDI to a country's external financing and economic growth, the behavior of multinational corporations, and the extent of regulation of FDI and other forms of capital flows are some of the issues on which policymakers usually have to take a stand. Not coincidentally, economic research has devoted a large effort to exploring these issues.

In this paper I discuss some of the issues regarding FDI in developing countries, and in particular two issues highlighted in recent discussions and research. The first is whether and through which channels FDI affects economic growth. The second is the impact on economic growth of the exploitation of natural resources, normally developed by foreign investors. The two questions are related, and from the answers we can derive policy implications regarding the treatment of FDI in developing countries.

I begin by reviewing some stylized facts about the behavior of FDI, especially in the years since the surge of capital inflows of the 1990s came to a halt. Next I discuss the evidence showing that FDI does affect economic growth and the mechanisms through which that occurs. I then discuss the relationship between the exploitation of natural resources, in which foreign investors often play an important role, and economic growth. The paper ends with some concluding remarks.

1. Some Stylized Facts

Figure 1 summarizes the recent history of capital inflows to emerging markets. The late 1970s and early 1980s witnessed a surge of capital flows, but this primarily took the form of debt. During the second half of the 1980s, after the debt crisis that began in Latin America in the early 1980s, capital flows to emerging markets almost evaporated. The early 1990s, however, saw a reversal of this trend: a renewed and even stronger upsurge occurred during that decade, reaching a peak on the eve of the Asian crisis. Interestingly, this process has its mirror image in the current account of the United States. The U.S. current account shifted gradually from near balance in the early 1980s to a deficit of about 3 percent of GDP by 1988. It had fallen to almost zero again by 1991, but since then it has been increasing steadily, to almost 5 percent of GDP in 2002. This shows that although capital flows respond to opportunities created in emerging markets, they also move according to the availability of capital in the developed world.

The latter part of the 1990s saw another sharp decline of capital flows to emerging markets. From more than \$300 billion in 1996, inflows have declined to little more than half that magnitude in recent years. But another important dimension of the capital flows slowdown has been a change in composition. Even as portfolio equity flows and debt have declined, FDI has remained substantial, and well above pre-1996 levels. Whereas before 1990, emerging economies received only 13 percent of worldwide FDI in a typical year (figure 2), by 1996 that share had more than doubled. Emerging economies in Asia claimed the bulk of these increased flows, but their share declined again after the Asian crisis of the late 1990s. Latin America meanwhile has kept its share of worldwide FDI relatively constant.

As figure 3 shows, however, even as total capital flows to Latin America have declined, the importance of FDI within those flows has increased. Indeed, in all of the world's emerging regions, but especially in Latin America, the relative importance of FDI in capital inflows has been increasing, from about 10 percent of total inflows in the early 1990s to 35 percent in 2002 (figure 4). Today it is widely taken for granted that FDI will be the main, and indeed almost only, vehicle of foreign financing in developing countries for years to come.

The mid-1990s surge in FDI to emerging economies largely took the form of greenfield investment, that is, the construction of new foreign-owned facilities. Much FDI in recent years, however, has come in response to privatization and, more generally, to opportunities for mergers and acquisitions generated by lower asset prices in these economies. In this respect, capital flows in the developing world have come to resemble those among developed countries, where more than 80 percent of flows of FDI take the form of mergers and acquisitions.¹ As figure 5 shows, the share of mergers and acquisitions in FDI inflows into Latin America rose from about 20 percent in the early 1990s to about 50 percent in 2000.

An important and frequently cited feature of FDI is that it tends to be relatively stable: when a crisis erupts, FDI cannot flee the country as easily as more liquid forms of capital such as portfolio flows and debt. In times of turbulence, these more liquid flows may increase the volatility of the capital account, with adverse consequences for exchange rates and economic activity. In a sense, foreign direct investors share more in the risks of the domestic economy, as the prices of their assets adjust to local economic conditions. A simple way to illustrate this point is to examine the persistence of different flows by estimating the autocorrelation coefficient for a series of annual flows. Table 1 shows this coefficient, with one and two lags, for annual data from 1978 to 2000. The table shows that FDI tends to be more persistent than other types of flows, and especially persistent in Latin America. This evidence suggests that those countries that are able to attract FDI can expect to see these inflows continue; on the other hand, should FDI stop flowing in, the drought may last a long time.

It is well established, and will be discussed later, that countries with a history of strong growth performance are able to attract FDI. This might lead to think, given the evidence reviewed above, that FDI into the Latin American economies has increased because these economies are performing well. However, this is clearly not the case. Here it is important to recognize that FDI is almost the only form of capital still flowing to the region. Recently, Hausman and Fernández-Arias (2000) have presented convincing evidence against the view that FDI dominates capital inflows in countries that are more

¹ For further analysis of FDI among developed countries see Lipsey (2000).

promising, safer, and have better institutions and policies. Figure 6 shows that those countries whose inflows consist mainly of FDI tend to be countries with lower creditworthiness. Countries classified by Moody's as B and Ba receive almost 70 percent of their capital inflows as FDI, whereas for investment-grade countries that figure is between 30 and 40 percent. These data confirm that although countries with better performance receive more capital inflows, these inflows are *less* tilted toward FDI than in economies with poorer performance. The recent trends in Latin American countries' capital accounts confirm that, as risk and instability have increased in some important parts of the region, FDI has become their most important source of external financing.

At the firm level, Desai, Foley, and Hines (2002) show that the existence of capital controls distort the allocation of assets by American multinational corporations. These companies overinvest in physical capital in countries with capital controls and underinvest in financial assets. Because multinational corporations enjoy access to world capital markets, they have an advantage over purely domestic firms in investing in activities that are capital intensive. This may explain why, in less developed economies and in economies less fully integrated into the world economy, there is a bias toward FDI with respect to other forms of capital.

2. The Effects of FDI on Economic Growth

The accumulation of capital is an important determinant of economic growth. Since FDI is a component of total investment, it, too, contributes to growth. But the interesting question is whether FDI exerts a positive growth effect beyond the direct effect through increased investment, for example because it facilitates the transfer of knowledge from abroad. Addressing this issue from both an analytical and an empirical point of view may lead to important policy implications: if FDI does foster growth beyond its simple contribution to capital accumulation, policymakers may wish to give special consideration to policies that promote the inflow of FDI.

There are many reasons why FDI might give rise to beneficial externalities that promote economic growth. FDI may allow a country to bring in technologies and knowledge that are not readily available to domestic investors, and in this way increase productivity growth throughout the economy. FDI may also bring in expertise that the country does not possess, and foreign investors may have better access to global markets. Indeed, De Gregorio (1992) found support for this view by examining the evidence on economic growth in Latin America during the period 1950-85: increasing aggregate investment by 1 percentage point of GDP was found to increase economic growth by 0.1 to 0.2 percent a year, but increasing FDI by the same amount increased growth by approximately 0.6 percent a year. This indicates that FDI is about three times more efficient than domestic investment.

Along similar lines, and for a broader sample of countries, Blomstrom, Lipsey, and Zejan (1992) found that FDI has a positive effect on growth under certain circumstances. Comparing samples of low- and high-income countries, they found a positive effect of FDI only in the second group, suggesting that there is a threshold level of income above which FDI has extra effects on economic growth, and below which it does not.

The study by Blomstrom, Lipsey, and Zejan is consistent with the idea that only those countries that have reached a certain level of income can absorb new technologies and benefit from technological diffusion, and thus reap the extra advantages that FDI can offer. What explains this differential response to FDI at different levels of income? The prime suspect is human capital, a variable that is positively correlated with the level of income per capita. It may take a well-educated population to spread the benefits of newly introduced technologies to the whole economy.

This was the idea explored by Borensztein, De Gregorio, and Lee (1998), who analyzed the growth effect of FDI in a panel data set of 69 developing countries during the period 1970-89. In an initial analysis, FDI was found to have a positive effect on growth beyond the direct investment effect, but not in general a statistically significant effect. However, when the authors constructed a new variable—the FDI variable multiplied by a measure of human capital—the effect turned out to be both positive and

significant. This finding showed that the interaction of FDI and human capital had an important impact on growth. But this effect was observed only when the level of human capital, as measured by years of secondary school enrollment of the male population, was sufficiently high. The intuition behind this result is that, for a country to take advantage of technological diffusion due to FDI, it must have a high level of human capital. For example, a permanent increase in FDI equivalent to 1 percent of GDP, in a country with an average educational attainment of 0.91 years of secondary schooling (the average in the sample), would increase the rate of growth by 0.6 percent a year. More recently, Balasubramanian, Salisu, and Sapsford (1999) have confirmed the positive interaction between human capital and FDI. They also found that more-open economies experience greater benefits from FDI.

However, the evidence just reviewed appears at odds with some recent microeconomic evidence. In an important paper, Aitken and Harrison (1999) studied the spillover effects of foreign firms on domestic firms in Venezuela and found very limited effects at the plant level. Moreover, the small spillover they found came mainly from joint ventures, suggesting that close ties between domestic entrepreneurs and foreign investors generate some spillovers, but that purely foreign plants do not. This evidence is interesting and persuasive, but by its nature it cannot capture spillovers from foreign investors to the whole economy. For example, if foreign investors in manufacturing somehow induced productivity improvements in, say, the financial sector, this would not be captured at the plant level. However, it should be captured at the aggregate level, which may require looking at cross-country evidence.

Given these mixed results, Carkovic and Levine (2002) recently took another look at the effects of FDI on economic growth in a large sample of countries. Previous studies had tackled the endogeneity issue, that is, whether the observed positive effect is due to the fact that fast-growing countries are the ones best able to attract foreign investors, but these authors argued that their procedures were more robust to the endogeneity problem. After using a battery of tests and techniques to control for these problems, they concluded that growth and a good macroeconomic environment are what drive FDI, rather than the other way around.

The existence of a positive externality from FDI to economic growth remains an unsettled issue, and therefore the policy implications are not straightforward. However, even if there is a positive externality, as most cross-country studies indicate, the implication that there should be special policies to foster foreign investment does not necessarily follow. My own presumption is that a number of issues call into question the case for special incentives. Indeed, in order to justify special incentives, it is necessary not only to prove that FDI has a positive effect on growth, but also that it is possible to identify policies that promote FDI without inducing distortions that may offset the gains in growth. What is really needed to support a policy of special incentives for FDI is empirical evidence of a positive relationship between discriminatory policies in favor of FDI and economic growth.

There are several important reasons to be cautious when considering policies that discriminate in favor of foreigners:

- Discriminatory policies open the door to rent seeking and economic distortions. They create a perverse incentive for domestic investors to seek out foreigners with whom to share the potential subsidies, even when foreigners would not be interested in investing if there were no special treatment. Such policies also reduce incentives for local entrepreneurship. In summary, discrimination induces other distortions in the economy.
- Special treatment for some projects or sectors may reduce the net benefits from FDI. In attempting to foster particular sectors or specific investment projects, authorities may negotiate, on a case-by-case basis, special conditions for foreign investors. This is risky business. In a competitive world, if many countries bid against each other to attract the same foreign investment, they may end up dissipating all the potential gains from such investment.
- Direct incentives to foreign investors generate unfair discrimination between domestic and foreign investors, and this raises serious political economy implications, especially in middle-income countries. Some affected groups will ask why foreigners should enjoy better treatment than domestic investors. One possible answer is that, until the country has built strong institutions and a reputation as a safe

location for foreigners to do business, some form of discrimination may be advisable. For example, the country may need to offer some specific guarantees in terms of protection of property rights and rules of the game.

This has been the route followed by Chile in its efforts to sustain inflows of FDI. Under the 1974 Foreign Investment Statute (DL 600), later made part of the Constitution of 1980, foreign investors can sign a contract with the State of Chile guaranteeing them property rights and some stability of the rules of the game.² Foreign investors accounting for 85 percent of total FDI inflows into Chile since 1974 have taken advantage of this mechanism.

The principal rules promoting stability are those ensuring full access to foreign exchange, something that traditionally has been heavily restricted in Chile. Foreign investors may also apply for a guarantee of tax invariability, although they will pay a higher tax rate than that currently imposed on profit remittances. These rules were applied in a period of great uncertainty about protection of property rights and stability of the rules of the game. This is also reasonable in the context of a country that until recently imposed many restrictions on the foreign exchange market.

However, there is no reason for Chile to go further in this direction, especially now that it has established its reputation and commitment to fair treatment of foreign investors on the basis of equal treatment to national and foreigners. Hence, if anything, the special rules applying to foreigners should be dismantled as time goes on. Only those rules that relate to the essence of being a foreign investor, such as those governing access to foreign exchange, should be kept in place.

3. The Effects of Natural Resources on Economic Growth

Proposals aimed at attracting foreign investment often seek to promote certain specific sectors rather than others. In particular, there is a current debate on whether the

² For further details see CINVER (2002).

exploitation of natural resources is good for growth. This is a particularly important issue for a country like Chile, where more than a third of foreign investment has been directed to the mining sector. But it is an important topic for all countries interested in FDI. The role of natural resources in economic development touches on many issues, from FDI to the environment to the level and management of exchange rates. The issue I will address here is the fundamental one of whether natural resources are a blessing or a curse for developing countries.

Recent empirical research has found a negative relationship between abundance of natural resources and economic growth. Most notably, Sachs and Warner (1995) found such a negative relationship using cross-country regressions. Their finding was robust to different measures of resource abundance, such as the share of mining production in GDP, land per capita, and the share of natural resource exports in GDP. They found that a one-standard-deviation increase in the share of natural resources exports in GDP was associated with a lower rate of growth on the order of 1 percent a year.

The claimed robustness of this finding has been subjected to severe scrutiny. For example, it has been noted that certain high-income countries, such as Finland and Sweden, Canada and the United States, and Australia, still rely on their abundance of natural resources, and thus provide some strong historical counterexamples. Lederman and Maloney (2002) reexamined the econometric analysis of Sachs and Warner (both their original 1995 paper and subsequent papers) and argued that, after controlling for omitted variables and endogeneity problems, their finding does not hold. What Sachs and Warner's natural resources variables were really capturing, according to Lederman and Maloney, was the negative correlation between export concentration and interindustry trade, and the positive correlation between such concentration and real exchange rate volatility.

Although the empirical evidence may thus be inconclusive, as it was in the case of FDI, it is useful to review the channels through which having natural resources might be detrimental for growth, and what might be the policy implications. There are two interesting hypotheses. The first, formalized by Lane and Tornell (1996), is rooted in political economy and invokes a "voracity effect." Different interest groups, it is argued,

fight to capture the rents from natural resources, and this induces a bad allocation of resources, tilted toward rent seeking and inducing inefficient taxation. The other hypothesis is that an economy may have a limited endowment of some key factor, for example the capital stock. In such a situation, the exploitation of natural resources, which provides high rents but probably makes a small contribution to overall productivity growth, may also shift the allocation of capital away from growth-enhancing activities.

If the problems with natural resources development stem from a voracity effect, the solution is not to forbid their exploitation but rather to strengthen institutions. After all, there will always be some source of rents, but a healthy institutional framework, one that leads to sound fiscal policy, taxation, regulation, and decision making at the government level, may prevent the capture of economic policy by interest groups that do not properly represent the interests of society. In contrast, if the problem is that the exploitation of natural resources uses scarce resources, such as physical capital, then the first-best solution may be to open the capital account and allow FDI in the natural resources sector. In a world of free capital mobility, the lack of domestic capital could be overcome by allowing in foreign capital.

However, as argued by Bravo-Ortega and De Gregorio (2002), if the scarce factor is human capital, opening does not solve the problem, because human capital is much less mobile across countries. This is shown using a two-sector model. It is assumed that production in one sector, natural resources, is subject to decreasing returns to scale, whereas the other sector, manufacturing, is subject to decreasing returns to scale at the firm level, but there is an externality that leads to aggregate constant returns to scale and, thus, to permanent growth. The rate of growth of the economy is a weighted average of the rates of growth of the two sectors. If the economy has a high level of human capital, the higher income that it attains generates faster growth despite the abundance of natural resources. This model captures the idea that natural resources limit growth as long as the level of human capital is low, leaving insufficient resources to devote to growth-enhancing activities. The implication of the model is that countries with low levels of human capital may reduce their rate of growth by exploiting natural resources. Indeed, the empirical evidence presented in the paper shows that there is an interaction effect

between human capital and the abundance of natural resources, and that there is a threshold level of human capital beyond which natural resources are good for growth.

Nevertheless, this discussion misses the most important point: what is good for an economy's welfare is not necessarily its rate of growth of output, but rather the *level* of output. It is easy to imagine an economy where the discovery of natural resources may lead to a decline in growth but an increase in income that ultimately raises welfare. On the other hand, it is difficult to imagine that a country could be better off by giving away its natural resources as could be wrongly implied from the result of Sachs and Werner (1995). The empirical evidence regarding the level of income, rather than the rate of growth, shows that the richer a country is in natural resources, the greater its income.

Maloney (2002) has made a similar point regarding the innovative capacity of a country and the benefits it can extract from the exploitation of natural resources. Reviewing the historical evidence, he argues that high investment in human capital and scientific infrastructure helps countries both take greater advantage of technological advances abroad and increase productivity growth in the natural resources sector. Maloney also argues that there is no reason to think that natural resource industries have inherently slower productivity growth than other sectors such as industry.

The high starting levels of human capital in the Scandinavian countries and in other high-income countries with a broad base of natural resources help to explain why the exploitation of those resources was not detrimental for their growth. Moreover, even the argument that natural resources industries display slow productivity growth compared with manufacturing has been recently questioned by Martin and Mitra (2001). They found, in a large sample of developing and developed countries, that technical progress has been faster in agriculture than in manufacturing, weakening further the argument that governments should use discriminatory policy to shift the economy from natural resources to industry. As in the case of FDI, there is strong evidence that having a well-educated labor force is key to growth and, specifically, key to taking full advantage of both FDI and natural resources.

4. Concluding Remarks

Foreign direct investment is beneficial for economic growth. But there is no solid basis for arguing that any one sector should be promoted against any other, and therefore, as a general guideline, inducements to FDI should not be made on a discriminatory sectoral basis without some clear rationale. The issue of industrial policy goes beyond the purpose of this paper, but there are no strong reasons to argue that developing natural resources rather than manufacturing may be detrimental for growth. However, as this paper has emphasized, taking full advantage of the benefits of FDI requires a well-educated labor force, to promote technological diffusion and the adoption of better technologies. The same applies to the development of natural resources: here, too, it is beneficial to have a high level of human capital. This prevents crowding out among different activities. It allows for innovation to take place, starting in the natural resources sector and spreading downstream or to other sectors. The experience of the Nordic countries shows how prosperity is in no way inconsistent with the good fortune of being well endowed in natural resources.

Also important is the principle of national treatment. There is no reason for countries to discriminate between local and foreign investors, and perhaps one of the most important rules for all countries is that foreigners should be treated as locals. However, in countries making the transition toward being a reputable recipient of FDI, it may be necessary to provide some guarantees to foreigners, in particular those that apply uniquely to foreign investors, such as access to foreign exchange to remit profits and capital.

As countries develop, it is to be expected that capital flows will take different forms, and perhaps the share, although not the magnitude, of FDI may decline. For this reason, policymakers must look at FDI in the broad context of capital flows and realize that trying to force these flows to take one form or another may create artificial distortions. Of course, and for good reasons, countries may worry about the maturity of capital inflows and FDI, but this does not imply that, for flows of a given maturity, there should be some preference for one form over another. Each type of capital inflows serves a different purpose from the point of view of investors, and the choice depends to a large

extent on the institutional framework of the economy. In addition, if the concerns are with the stability of the economy and capital flows, the best instrument is a strong system of prudential regulation of the financial system.

An economy with strong institutions and protection of property rights is the best incentive for FDI. A recent World Bank survey of 191 multinational corporations, including 30 of the world's 100 biggest, found that almost 80 percent planned to expand abroad in order to create new operations or to buy existing companies (table 2). These companies use FDI mainly to gain access to markets. This would put small developing countries at a disadvantage in attracting FDI. But with greater openness, and progress in transportation and communications, this disadvantage could be overcome, since the second most important reason for locating abroad is to reduce costs.

As the survey also shows (table 3), what matters for the choice of location is not special incentives (for example, lower taxes is not among the most important factors), but rather strength of institutions. Access to customers is naturally the most important factor of all. But the stability of the social and political environment and ease of doing business follow close behind. Countries can benefit greatly from FDI. To attract it, and to take full advantage of it when it comes, growth-promoting institutions are the essential ingredient.

References

- Aitken, Brian, and Ann Harrison. 1999. "Do Domestic Firms Benefit from Foreign Investment? Evidence from Venezuela." *American Economic Review* 89(3): 605-18.
- Balasubramanyam, V. N., M. Salisu, and D. Dapsford. 1999. "Foreign Direct Investment as an Engine of Growth." *Journal of International Trade and Economic Development* 8(1): 27-40.
- Blomstrom, M., R. Lipsey, and M. Zejan. 1992. "What Explains Growth in Developing Countries." Working Paper 4132. Cambridge, Mass.: National Bureau of Economic Research.

- Borensztein, E., J. De Gregorio, and J-W. Lee. 1998. "How Does Foreign Direct Investment Affect Economic Growth?" *Journal of International Economics* 45: 115-35.
- Bravo-Ortega, Claudio, and José De Gregorio. 2002. "The Relative Richness of the Poor? Natural Resources, Human Capital and Economic Growth." Working Paper 139. Santiago: Central Bank of Chile
- Carkovic, María, and Ross Levine. 2002. "Does Foreign Direct Investment Accelerate Economic Growth?" Unpublished paper. University of Minnesota.
- Chile Foreign Investment Committee. 2002. "Chile's FDI Policy: Past Experience and Future Challenges." DAF/IME/RD(2002)4. Paris: OECD.
- De Gregorio, José. 1992. "Economic Growth in Latin America." *Journal of Development Economics* 39: 58-84.
- Desai, Mihir A., C. Fritz Foley, and James R. Hines, Jr. 2002. "Capital Controls, Liberalizations, and Foreign Direct Investment." Unpublished paper. Harvard University.
- Hausmann, Ricardo, and Eduardo Fernandez-Arias. 2000. "Foreign Direct Investment: Good Cholesterol?" Working Paper 417. Washington: Research Department, Inter-American Development Bank.
- Lane, Philip, and Aaron Tornell. 1996. "Power, Growth and Voracity Effect." *Journal of Economic Growth* 1(2): 213-41.
- Lederman, Daniel, and William Maloney. 2002. "Open Questions about the Link between Natural Resources and Economic Growth: Sachs and Warner Revisited." Unpublished paper. Washington: World Bank.
- Lipsev, Robert E. 2000. "Interpreting Developed Countries' Foreign Direct Investment." Working Paper 7810. Cambridge, Mass.: National Bureau of Economic Research.
- Maloney, William. 2002. "Missed Opportunities: Innovation and Resource-Based Growth in Latin America." Unpublished paper. Washington: World Bank.
- Martin, Will, and Devashish Mitra. 2001. "Productivity Growth and Convergence in Agriculture versus Manufacturing." *Economic Development and Cultural Change* 49(2): 403-22.

Sachs, Jeffrey, and Andrew Warner. 1995. "Natural Resource Abundance and Economic Growth." Working Paper 5398. Cambridge, Mass.: National Bureau of Economic Research.

UNCTAD. 1999. *World Investment Report*. New York: United Nations

UNCTAD. 2001. *World Investment Report*. New York: United Nations.

World Bank. 2002. Foreign Direct Investment Survey. Washington: World Bank.

Table 1: Capital Flows Persistence

	Autocorrelation of order	
	1	2
Emerging Markets		
FDI	0.93	0.85
Portfolio	0.74	0.52
Debt, Bonds and other flows	0.66	0.23
Official Creditors	0.28	-0.03
Latin America		
FDI	0.9	0.8
Portfolio	0.66	0.29
Debt, Bonds and other flows	0.56	0.24
Official Creditors	-0.31	-0.3
Emerging Asia ex China and India		
FDI	0.87	0.66
Portfolio	0.52	0.27
Debt, Bonds and other flows	0.61	0.03
Official Creditors	0.32	-0.13

Source: Author's calculations

**Table 2: World Bank Foreign Direct Investment Survey:
expansion strategies**

Locating new facilities outside home country in next 3 years (%)	
yes	79
no	21
Expansion strategy in foreign country	
Expand an existing company facility	15
Build or lease a facility	43
M&A	42

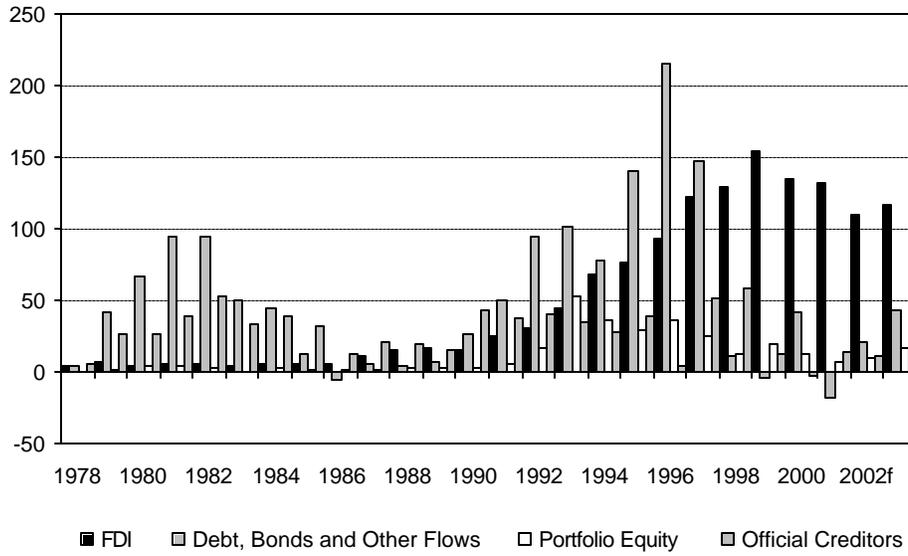
Source: World Bank (2002)

**Table 3: World Bank Foreign Direct Investment Survey:
Factors Influencing Location**

First and Second most important objective for investing abroad		
	1st	2nd
Improved market access	55	15
Reduce operating costs	17	31
Other factors	8	11
Source raw materials	6	0
Consolidate operations	4	16
Developed new product lines	4	11
Improved productivity	2	0
Developed new technologies	2	0
Improved labor force access	1	11
Reduce risk	1	5

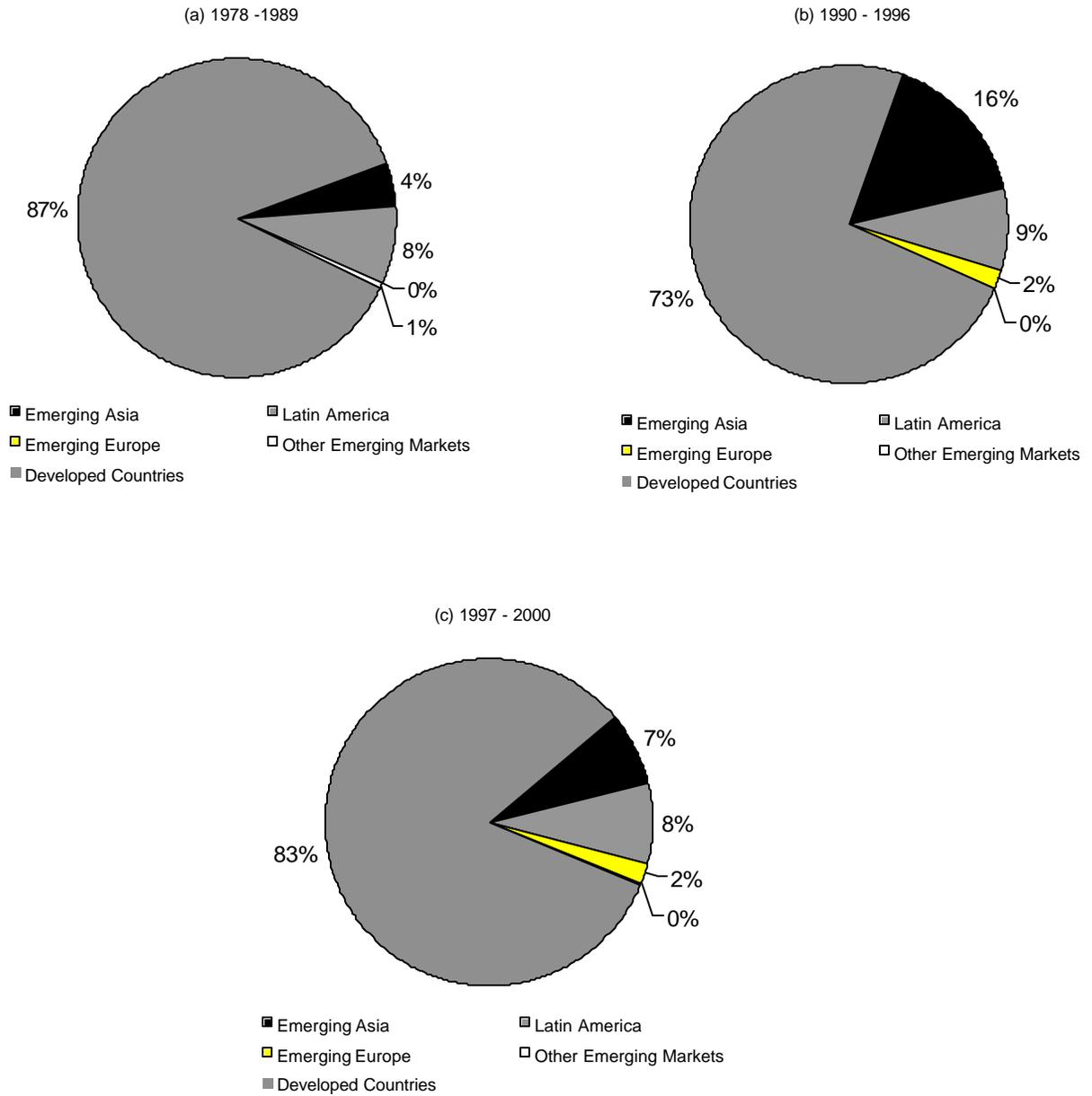
Source: World Bank (2002)

Figure 1: Net Capital Flows to Emerging Markets
(billions of 2000 dollars)



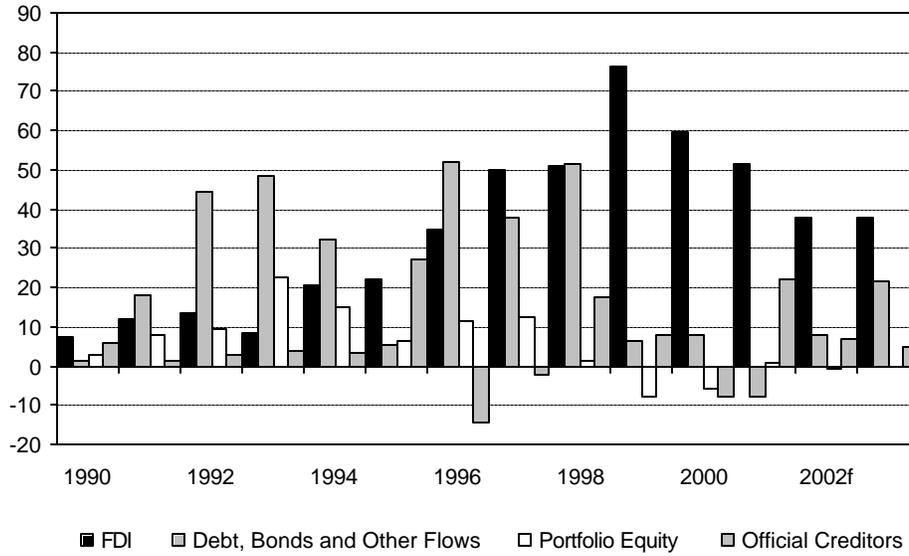
Source: Institute of International Finance
f: Forecast

Figure 2: FDI inflows distribution, 1979-2000
(percentage)



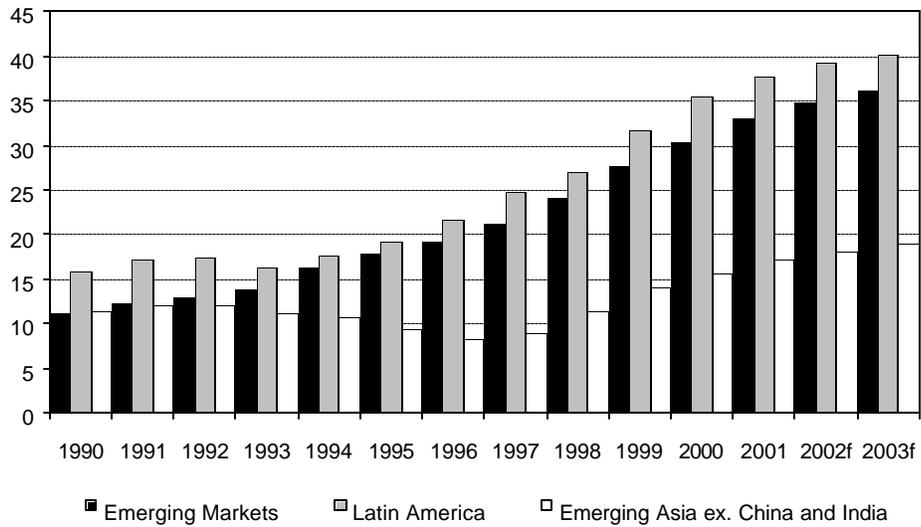
Source: IMF Balance of Payments Statistics

Figure 3: Net Capital Flows to Latin America
(billions of 2000 dollars)



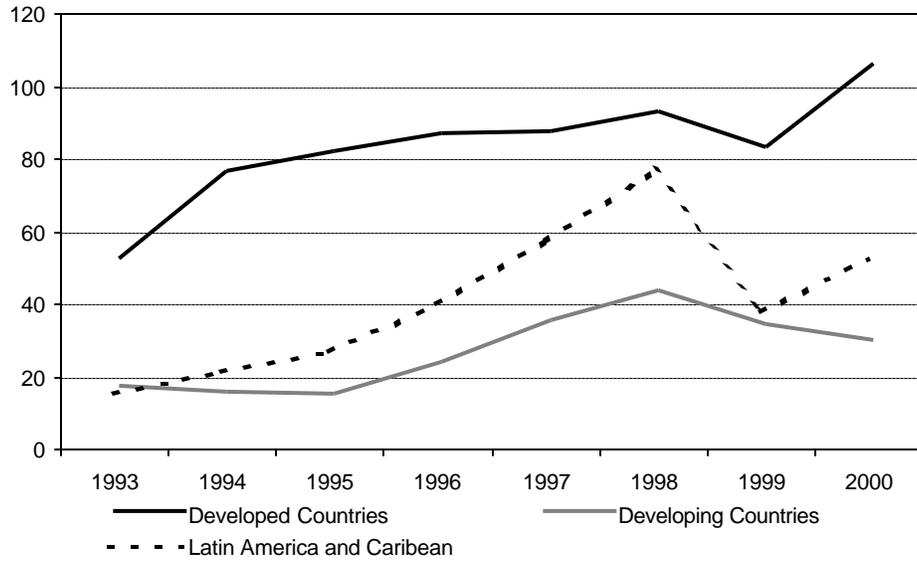
Source: Institute of International Finance
f: Forecast

Figure 4: Share of FDI on Net Capital Inflows by Region
(percentage)



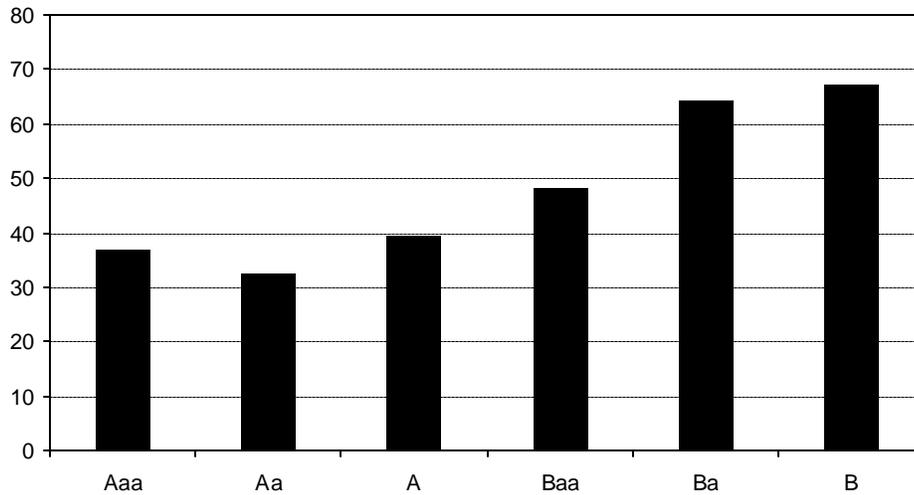
Source: institute of international finance
f: Forecast

Figure 5: Share of Mergers and Acquisitions in FDI Inflows
(percentage)



Source: UNCTAD (1999, 2001)

Figure 6: Share of FDI in Total Capital Inflows by Credit Rating
(percentage)



Source: IMF, Balance of Payments Statistics and Moody's

**Documentos de Trabajo
Banco Central de Chile**

**Working Papers
Central Bank of Chile**

NÚMEROS ANTERIORES

PAST ISSUES

La serie de Documentos de Trabajo en versión PDF puede obtenerse gratis en la dirección electrónica: <http://www.bcentral.cl/Estudios/DTBC/doctrab.htm>. Existe la posibilidad de solicitar una copia impresa con un costo de \$500 si es dentro de Chile y US\$12 si es para fuera de Chile. Las solicitudes se pueden hacer por fax: (56-2) 6702231 o a través de correo electrónico: bcch@bcentral.cl.

Working Papers in PDF format can be downloaded free of charge from: <http://www.bcentral.cl/Estudios/DTBC/doctrab.htm>. Printed versions can be ordered individually for US\$12 per copy (for orders inside Chile the charge is Ch\$500.) Orders can be placed by fax: (56-2) 6702231 or e-mail: bcch@bcentral.cl.

- | | |
|---|----------------|
| DTBC-195
Trade Intensity and Business Cycle Synchronization: Are Developing Countries any Different?
César Calderón, Alberto Chong y Ernesto Stein | Enero 2003 |
| DTBC-194
Fiscal and Monetary Policy Coordination in EMU
Jürgen von Hagen y Susanne Mundschenk | Diciembre 2002 |
| DTBC-193
Reflections on the Optimal Currency Area (OCA) Criteria in the Light of EMU
M.J. Artis | Diciembre 2002 |
| DTBC-192
Growth, Integration, and Macroeconomic Policy Design: Some Lessons for Latin America
David Begg | Diciembre 2002 |
| DTBC-191
Curva de Beveridge, Vacantes y Desempleo: Chile 1986-2002.II
Dolly Belani, Pablo García y Ernesto Pastén | Noviembre 2002 |
| DTBC-190
How Well does a Monetary Dynamic Equilibrium Model Account for Chilean Data?
Roberto Duncan | Noviembre 2002 |

DTBC-189		Octubre 2002
EMU and Accession Countries: Fuzzy Cluster Analysis of Membership		
Dmitri Boreiko		
DTBC-188		
Monetary Integration in the Southern Cone: Mercosur is not Like the EU?		
Ansgar Belke y Daniel Gros		Octubre 2002
DTBC-187		Octubre 2002
Infrastructure Compression and Public Sector Solvency in Latin America		
César Calderón, William Easterly y Luis Servén		
DTBC-186		Octubre 2002
The Output Cost of Latin America's Infrastructure Gap		
César Calderón y Luis Servén		
DTBC-185		Octubre 2002
How did Latin America's Infrastructure Fare in the Era of Macroeconomic Crises?		
César Calderón, William Easterly y Luis Servén		
DTBC-184		Octubre 2002
The Direction of Causality between Financial Development and Economic Growth		
César Calderón y Lin Liu		
DTBC-183		Septiembre 2002
A Review of the Literature on Early Warning Systems for Banking Crises		
Alejandro Gaytán y Christian A. Johnson		
DTBC-182		Septiembre 2002
Are Devaluations Really Contractionary?		
I. Igal Magendzo		
DTBC-181		Septiembre 2002
Política Monetaria y Mecanismos de Transmisión: Nuevos Elementos para una Vieja Discusión		
Verónica Mies, Felipe Morandé y Matías Tapia		
DTBC-180		Septiembre 2002
Turnover and Regulation: The Chilean Pension Fund Industry		
Solange Berstein y Alejandro Micco		