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CARTA DEL EDITOR IN CHIEF

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¡Bienvenidos al cuarto número de la Revista Globalización, Competitividad y Gobernabilidad en la Región Iberoamericana (GCG)!

Este es el tercer número del segundo fascículo que publicamos en el 2008 y con él conmemoramos el primer aniversario de la revista. En tan sólo un año, podemos afirmar que la revista ha cautivado no solamente a lectores iberoamericanos, sino además, a otros de muy diversas nacionalidades. Hasta el momento, el portal ha sido accedido desde 78 países, y por más de 2.000 usuarios únicos mensuales. Asimismo, ha alcanzado un total de 60.000 páginas vistas acumuladas y un 9 en la escala de 0 a 10 del PageRank™ de Google, medida de visibilidad e impacto que cuenta el número y el origen de los enlaces externos recibidos por una web.

Adicionalmente, y a pesar de su corta existencia, GCG ha sido indexada en bases de datos selectivas. En efecto, fue incorporada al catálogo LATINDEX, Sistema Regional de Información en Línea para Revistas Científicas de América Latina, el Caribe, España y Portugal , por ser una publicación periódica que cumple al menos con el 70% de los criterios de calidad internacionalmente aceptados. Cabe destacar que sólo un 19,86% de las revistas científicas iberoamericanas están allí incluidas. Asimismo, fue agregada al archivo DICE (Difusión y Calidad Editorial de las Revistas Españolas de Humanidades y Ciencias Sociales y Jurídicas), fruto de un convenio de colaboración entre el Consejo Superior de Investigaciones Científicas (CSIC) y la Agencia Nacional de Evaluación de la Calidad y Acreditación (ANECA). En resumen: ¡no nos podemos quejar!

Tras la divulgación de nuestro último número, el evento más trascendental ha sido la turbulenta crisis económica que se ha propagado a nivel mundial. La vertiginosa caída de los mercados financieros norteamericanos se extendió al sistema financiero internacional. Esta debacle conducirá a una desaceleración económica que afectará el desarrollo económico mundial. América Latina no saldrá ilesa, aunque pareciera estar mejor preparada que en el pasado, debido al fuerte crecimiento registrado en los últimos cinco años. En efecto, entre el 2004 y el 2008 la tasa de crecimiento promedio fue del 5.1%. Sin embargo, el Business Monitor International vaticina sólo un 2.8% para el 2009. A juicio de Augusto de la Torre, economista en jefe para América Latina y el Caribe del Banco Mundial, la crisis repercutirá de forma distinta en cada país de la región. En todo caso, algunos efectos empiezan a sentirse: contracción de los mercados financieros y reducción de las remesas, de los precios de las materias primas y de la demanda de las exportaciones.

En efecto, la contracción de los mercados financieros ha revertido el flujo de capital en algunos países (e.g. Argentina, Ecuador, Venezuela, República Dominicana). Frente a la reducción de las remesas, muchos (e.g. Honduras, Nicaragua, Guatemala, El Salvador, República Dominicana, México) se han visto obligados a buscar alternativas para compensar la rebaja de ingresos. Por su parte, el descenso de los precios de las materias primas irá deteriorando los términos de intercambio para la región. En cuanto a la disminución de la demanda externa, los países más afectados serán aquellos que tuvieron un crecimiento con menor calidad y más riesgos en los últimos años. A pesar de todo, Latinoamérica irá superando la crisis con cotas de crecimiento significativas, pues –gracias a ciertas medidas implementas en los últimos años- hoy es menos vulnerable a los impactos macro financieros.

En medio de esta crisis, los gobiernos de veintidós países miembros de la Comunidad Iberoamericana se reunieron en San Salvador a finales de octubre con motivo de la XVIII Cumbre de Jefes de Estado y de Gobierno. Acordaron involucrar plenamente a la juventud en la dinámica de cambio y desarrollo y asumieron compromisos para mejorar la educación, salud, empleo, y cultura. En efecto, los jóvenes representan un segmento generacional de más de 150 millones de personas en la región y su participación activa es fundamental para promover la innovación, mejorar la competitividad e impulsar el crecimiento económico de sus países.

Por su parte, los mandatarios de los países que integran el G-20 acudirán el 15 de noviembre a una cumbre en Washington DC para discutir acerca de la crisis financiera global, mientras la ciudad también se prepara para recibir al próximo inquilino del número 1600 de la Avenida Pensilvania. Se iniciará así una nueva era para el liderazgo estadounidense. Frente a esta histórica victoria electoral, el mundo ha reaccionado con ilusión y escepticismo, mientras América Latina aguarda ansiosamente que el “cambio prometido” fomente el diálogo interamericano, fortalezca la cooperación y contribuya al desarrollo político y económico de la región.

En este escenario mundial, aparece el cuarto número de nuestra revista. Cuenta con ocho artículos. En el primero, Alberto Rodríguez, Carl Dahlman y Jamil Salmi resumen un reciente estudio realizado por el Banco Mundial acerca de la innovación como coadyuvante clave para incrementar la competitividad de su economía y acelerar el crecimiento. Con base en un trabajo de campo realizado en 2006 y 2007, los autores concluyen que ese país no ha aprovechado al máximo el conocimiento adquirido del exterior y ha descuidado la adopción de incentivos al sector privado para la inversión en innovación. El artículo propone acciones concretas para promover la innovación entre empleados y empresas.

En el segundo artículo, Christian Volpe y Jerónimo Carballo evalúan los desafíos que enfrentan las empresas para sobrevivir en los mercados de exportación. Con base en datos desagregados de empresas peruanas durante el período 2000-2006, determinan qué tipo de diversificación ha contribuido mejor a la permanencia de empresas en los mercados internacionales. El estudio demuestra que tanto la diversificación geográfica como la diversificación en cartera de productos, aumentan las oportunidades; aunque la primera más que la segunda. Los resultados ofrecen recomendaciones para el diseño de políticas de promoción de exportaciones adecuadas a países de la región con características similares al Perú.

En el siguiente artículo, Jaime Sabal presenta un modelo financiero para cuantificar el riesgo país. De forma muy concreta, se ilustra cómo incorporar el riesgo país en una valoración de un mercado emergente. Tradicionalmente, se hace aumentando la tasa de descuento resultante de utilizar el modelo clásico de evaluación del retorno esperado de un activo financiero en un mercado desarrollado, conocido como el Capital Asset Pricing Model (CAPM), con un porcentaje llamado "prima por riesgo país". Adicionalmente, algunos analistas modifican los flujos de caja esperados para reflejar la incertidumbre en los países emergentes. Sabal sostiene que en esa metodología el riesgo país se tiene en cuenta dos veces: en la tasa de descuento y en los flujos de caja. El artículo señala los errores implícitos derivados de aquélla y propone un modelo, con ilustración numérica de resultados, que corrige las deficiencias.

En el artículo cuarto, Cristina López Duarte y Marta Mª Vidal Suárez presentan un análisis teórico sobre las adquisiciones parciales como vía de implantación en un mercado extranjero. Desarrollan una tipología que permite identificar los rasgos singulares de cada tipo de adquisición parcial y diferenciarlos de otras formulas más frecuentemente utilizadas: creación de empresas conjuntas, establecimiento de filiales de plena propiedad o realización de adquisiciones totales. Cada una de las opciones de adquisición parcial se presenta con sus respectivas implicaciones estratégicas y la conveniencia de su utilización en diferentes escenarios internacionales.

En el quinto artículo, Carlos Fernadez-Otheo y Rafael Myro-Sánchez analizan la rentabilidad de los stocks de inversión extranjera directa (IED) en España de empresas nacionales y extranjeras. Las tasas implícitas de remuneración son estimadas y analizadas para los dos principales componentes de la inversión exterior, el capital social y la financiación entre empresas relacionadas, y para el período comprendido entre 1993 y 2007, en una sistemática comparación con otros países desarrollados, no sin antes discutir algunos aspectos estadísticos y metodológicos relevantes. Previamente se examina la dinámica temporal de los stocks y de las rentas, como base de una mejor comprensión del gran cambio

que ha tenido lugar en la posición de España en la inversión internacional. El principal resultado obtenido es una baja rentabilidad comparada de los activos y pasivos registrados en España por IED, que podría ayudar a explicar la desaceleración de los flujos recibidos en los últimos años. No obstante, el contraste entre la principal fuente de datos utilizada y la información procedente de las empresas involucradas aconseja cautela con respecto a la robustez de esta conclusión.

En el antepenúltimo artículo, Santiago Fernández de Córdoba y José María Serena analizan el impacto del incremento del precio de las materias primas en las economías de América Latina, enfocándose en el caso del cobre chileno. A su juicio, dicho aumento representa tanto una oportunidad como un riesgo por lo que resulta crucial la actuación de las autoridades. Si las fluctuaciones en los precios se deben a componentes transitorios o permanentes, una respuesta prudente por parte de las autoridades debiera suavizar los ingresos fiscales, ser modulada en función de consideraciones de equidad o de sostenibilidad del modelo de crecimiento. En este contexto, los autores ilustran con detalles la respuesta que dio Chile que dio a un incremento en el precio de un de producto de exportación percibido como transitorio y finito.

En el siguiente artículo Robert Grosse explica con numerosos ejemplos el rol de la Inversión Extranjera Directa (IED) como fuente de capital. Sostiene que, frecuentemente, la IED se confunde con un flujo de capital, algo similar a un préstamo de un banco extranjero o a la emisión de un bono internacional. Sin embargo, la IED es, en realidad, una transferencia del control y propiedad de una empresa, que puede ser financiada de diferentes maneras (no necesariamente requiriendo un flujo financiero al país en cuestión). El impacto financiero de una IED es bastante complejo y el artículo lo ilustra con casos específicos de México, Colombia, Chile y Argentina.

Finalmente, el artículo ocho alude a un estudio preparado por el Banco Inter-Americano de Desarrollo sobre los aspectos que repercuten en el comercio de América Latina y el Caribe (en especial, costos de transporte y aranceles). En este sentido, los autores sostienen que una disminución de un 10% en los costos de transporte ayudaría a aumentar las exportaciones en un 39%, superando así cualquier ganancia que la región pudiese obtener mediante la reducción de aranceles. Sin duda alguna, los elevados costos de transporte constituyen una verdadera barrera para el comercio en la región. En cuanto a la metodología, el estudio combina el análisis técnico de bases de datos con la exposición de casos concretos.

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La revista esta dirigida a quienes tienen la responsabilidad de gobernar empresas o dirigir organismos e instituciones públicas o privadas para proporcionarles ideas originales y propuestas innovadoras que contribuyan a la mejora de la competitividad y gobernabilidad de las empresas y los países iberoamericanos en un mundo globalizado. La revista también aspira a servir a la comunidad universitaria y científica de la región como publicación de referencia sobre nuevas ideas. Para ello facilitará la comunicación entre las distintas comunidades universitarias iberoamericanas, las acercará y las articulará alrededor del estudio de áreas concretas, debidamente analizadas mediante aportaciones teóricas, aplicaciones prácticas y estudio de casos reales.

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Artículos con DOI's: Cuervo-Cazurra, A.; Un, C. A. (2007).- "Regional economic integration and R&D investment", Research Policy, Vol. 36, Num. 2, pp. 227-246. doi:10.1016/j.respol.2006.11.003

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The journal is aimed at the people with responsibility for governing companies or managing public or private sectors and institutions. Its goal is to provide such people with original ideas and innovative proposals to help improve the competitiveness and governability of companies and the Ibro-American countries in a globalized world. The journal also aims to serve the region's academic and scientific communities by becoming the publication of reference for new ideas. It will do this by facilitating communication among the various Ibero-American academic communities, bringing them closer together and structuring them around the study of specific areas, duly analyzed by means of theoretical contributions, practical applications, and real case studies.

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Knowledge and Innovation for Competitiveness in Brazil*

AREA: 1
TYPE: Specific Cases

Conocimiento e innovación para la competitividad en Brasil
Conhecimento e inovação para a competitividade no Brasil

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This article summarizes a recent World Bank study that examined how Brazil can improve its competitiveness in the global economy by strengthening innovation. The study, based on fieldwork undertaken in 2006/2007, found that Brazil has not taken sufficient advantage of knowledge that can be acquired from abroad; that it trails its counterparts in providing a quality education and skills to use and to create knowledge; and that it has relied too heavily on government leadership to foster major innovation, while overlooking the more cost-effective approach of pushing the private sector to undertake incremental innovation and to increase productivity throughout the economy. It details specific steps than need to be undertaken to better prepare workers and firms to innovate and compete.

El presente artículo resume un estudio reciente del Banco Mundial que examina el modo en que Brasil puede mejorar su competitividad en la economía global fortaleciendo la innovación. El estudio, basado en trabajos de campo realizados en 2006/2007, concluyó que Brasil no ha aprovechado suficientemente el conocimiento que puede adquirirse del extranjero; que arrastra retraso en relación con sus homólogos en cuanto a prestación de educación de calidad y creación de conocimiento; y que depende en exceso del gobierno para fomentar innovaciones importantes, al tiempo que ha obviado enfoques más rentables de obligar al sector privado para asumir una innovación creciente y para aumentar la productividad de la economía. Pormenoriza los pasos específicos que se deben seguir para preparar mejor a los trabajadores de las empresas para que puedan innovar y competir.

O presente artigo sintetiza um estudo recente do Banco Mundial que examinou o modo como o Brasil pode melhorar a sua competitividade na economia global fortalecendo a inovação. O estudo, baseado em trabalhos de campo realizados em 2006/2007, concluiu que o Brasil não aproveitou suficientemente o conhecimento que pode ser adquirido do estrangeiro; que se atrasou em relação aos seus homólogos na prestação de uma educação de qualidade e de competências para usar e criar conhecimento; e que dependeu excessivamente do governo para fomentar inovação importante, ao mesmo tempo que negligenciava a abordagem mais eficaz em termos de custo de levar o sector privado a realizar inovação incremental e a aumentar a produtividade na economia. Pormenoriza passos específicos que devem ser dados para melhor preparar os trabalhadores e as empresas para inovarem e competirem.

*This is a summary of report was carried out by a multidisciplinary team of World Bank staff, consultants, and Brazilian counterparts. The core team and contributors analyzed existing data, developed conceptual and econometric models, and consulted extensively with federal and subnational governments, business leaders, and academics. The research was conducted primarily between November 2006 and April 2007. The Report was published by the World Bank in 2008.

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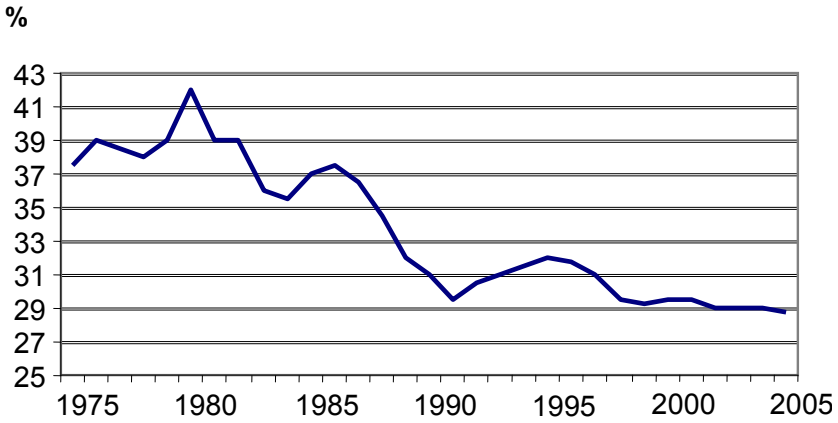
1. Introduction

Brazil has made considerable progress toward macroeconomic stability since reform measures began to take hold in the early 1990s, and its economy has produced stronger growth as a result—an average of 2.5 percent annually over the past decade. Nevertheless, from an international perspective, Brazil's level of economic growth is still a matter of significant concern. Compared with either OECD countries or competitors such as China or India, Brazil not only is growing slowly, it is falling farther behind. Indeed, as shown in the figure below, the income gap between Brazil and OECD countries has substantially widened. In 1980, Brazil's per capita purchasing power parity was about 42 percent that of OECD countries. Twenty-five years later, it had fallen to under 29 percent of OECD countries.

Brazil's per capita Income Relative to the OECD Area (in PPP)



Source: OECD (2006)

KEY WORDS
Brazil. Competitiveness. Knowledge and innovation

PALABRAS CLAVE
Brasil. Competitividad. Conocimiento e innovación

PALAVRAS-CHAVE
Brasil. Competitividade. Conhecimento e inovação

2. Where Growth Comes From

Economic growth is widely understood as the interaction between physical and human capital. Investment in either generally increases growth; moreover, when physical and human capital interact more efficiently, growth occurs more rapidly. Economists generally attribute this incremental efficiency-based growth to Total Factor Productivity (TFP). During the exceptional high-growth era of the "Brazilian Miracle" (1960–80), TFP was critical to growth; however, since then, TFP has declined dramatically. Growth-accounting exercises show that the ratio of Brazil's TFP compared with that of the United States dropped from 1.07 in 1975 to 1.02 in 1980, to 0.80 in 1995, and to 0.73 in 2000.

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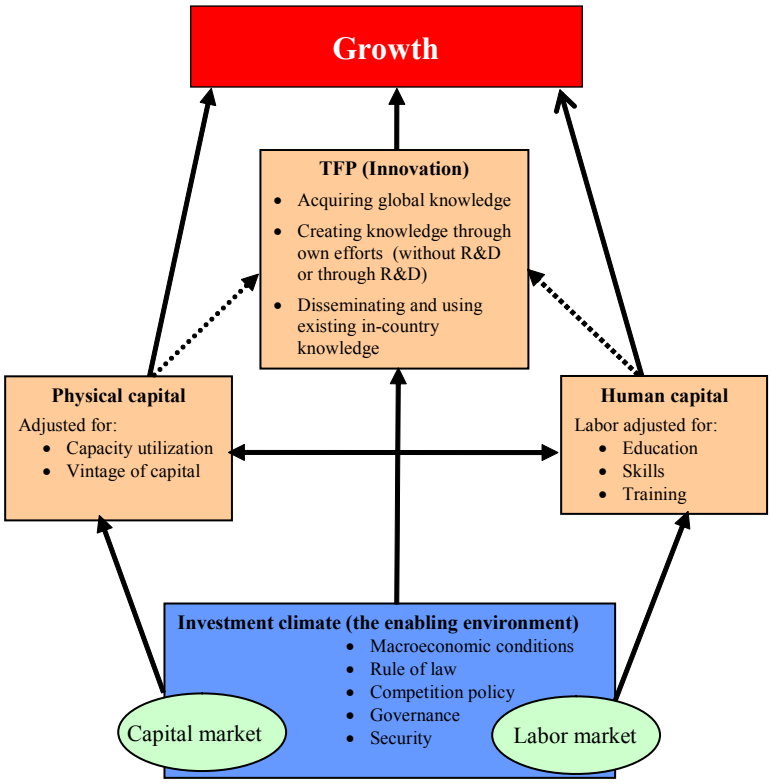
The macroeconomic shocks of the 1970s and the debt crisis of the 1980s are important factors in explaining the slowdown in Brazil's growth. However, this report argues that the decline in TFP was a similarly important cause. Why did it happen? Brazil's low rate of investment is one part of the answer. Low productivity is another. The main factor, however, is that a new global "knowledge economy" has been emerging; and Brazil, despite its relatively successful implementation of adjustment policies in the mid-1990s, was not prepared to compete.

In the new paradigm for middle-income countries, knowledge—not natural resources or cheap labor—increasingly constitutes the core of a country's comparative advantage. As well illustrated by dramatic success stories such as Bangalore, the capital of the Indian software industry, technical innovation and knowledge can work hand in hand to lead a country from suffocating poverty to strong productivity and competitiveness. Indeed, the proportion of goods in international trade with a medium-high or high technology content rose from 33 percent in 1976, to 54 percent in 1996, and to 64 percent in 2003 (World Bank 1999). This period was the same one during which Brazil muddled through slow trade liberalization and weak labor reforms, and paid little attention to its lagging basic education system. Had more radical reforms been undertaken, Brazil would have been much better able to take advantage of domestic and international opportunities to spur growth, as did competitors such as China.

Brazil can no longer ignore the knowledge economy—and it is not. An ongoing national dialogue is taking place on reforms to sustain strong macroeconomic performance, further open trade, improve the physical infrastructure, strengthen the judicial system and legal environment, and deal with weak and inequitable education systems that are not producing the kind of human capital required by today's global competition. This report emphasizes that Brazil has indeed made significant progress; yet the hard reality is that Brazil's competitors have too—only faster. The question has become not only how Brazil can make further progress, but how it can catch up.

The analysis in this report is based on the conceptual framework shown schematically in the figure below. Following from the conceptual framework, the report discusses three main areas for enhancing competitiveness and accelerating growth. First, Brazil needs to build upon its stable macroeconomic environment to extend reforms that will improve the investment climate. Second, higher productivity will require a focused effort to expand TFP through innovation-based growth. Third, a series of "micro" reforms are needed, of which two are urgent—strengthening incentives for firms to innovate, and upgrading the education system to improve the skills of workers entering the labor force. We present a set of specific recommendations that stem from this analysis. We also discuss possible roles for Brazilian agencies in implementing these recommendations, as well as the need to raise awareness on the urgency of this agenda.

Brazil's per capita Income Relative to the OECD Area (in PPP)



The main messages of this report cover four topics—consolidating the macroeconomic environment, boosting innovation, improving skills across the labor force, and moving from analysis to action.

3. Consolidating the Macroeconomic Environment

The report summarizes key conclusions from previous World Bank policy papers on the macroeconomic fundamentals behind Brazil's current stability and progress. It discusses improvements in the enabling environment that would serve to drive accelerated growth.

The Brazilian economy has remained stable as a result of prudent macroeconomic management—including fiscal and monetary policy, as well as debt management. Improved macroeconomic fundamentals have reinforced the benefit of favorable external demand for Brazil's primary commodities, raising international reserves to unprecedented levels. Fiscal restraint, which has included a cap on public investment, has translated into yearly primary surpluses and macroeconomic stability. However, the country's infrastructure now needs upgrading in order to increase productivity and avoid jeopardizing growth.

The challenge facing Brazil is to continue reducing public debt and improving the quality of the fiscal adjustment (that is, ensuring adequate resources for key public investments and poverty alleviation programs)—while improving the efficiency of public expenditures to create the fiscal space necessary for pro-growth investments. The ability of the government to adjust the composition of public expenditures is constrained, however, by its current high level of spending (most notably on pensions) and by an ongoing debt burden that ultimately limits the government's borrowing and spending capacity. In addition, the continuous growth in the size of government during the past decade—financed through increased taxes—has constrained domestic savings. High interest rates have acted as a disincentive to private sector investment.

In short, a stable macroeconomic environment has helped to reverse the bitter declines of "the lost decade," and this has led to moderate growth in the past few years. However, a stable macro environment has not been sufficient to spark fast growth. Moreover, given inadequate public investment in infrastructure and sluggishness of reforms to facilitate the investment climate, prospects for significantly higher growth remain slim. While productivity improved during the past decade, as shown by historical evidence in this report, it is nonetheless lower than in previous periods when investment grew faster.

4. Boosting Innovation

Brazil's growth depends strongly on the export of manufactures and commodities, a dependence that is likely to continue. Yet with few exceptions, Brazil's manufacturing base lags with respect to innovation—especially when Brazil is compared with China or India, countries that have taken giant steps in growth-enhancing innovation. If recent trends continue, Brazil would continue to be mainly a supplier of primary commodities in world markets and an exporter of manufactured products to Mercosur and other Latin American countries. In other words, Brazil risks missing the opportunity to become a serious, diversified global competitor. Becoming so would require Brazil to adjust its path—emphasizing higher value added to products in the sectors in which Brazil already has some comparative advantages, and engaging in higher-value, more-income-elastic manufactures and services. Brazil needs not only to diversify and add value to its commodities, but it must improve its competitiveness in manufacturing and service exports as well.

Until the 1990s, the productive sectors in Brazil operated within a relatively protected economy. The government provided few incentives for private sector investment in innovation; yet that mattered less because protection from competition made private sector investment in innovation relatively less necessary. We argue in this report that two factors—a bias toward overly "theoretical" research in publicly funded universities, and significant underinvestment by a shielded private sector spared the need to compete—lie at the heart of Brazil's current relative underperformance in innovation.

The private sector needs to invest more in R&D. Recent initiatives to encourage firms to invest in innovation—for example, the Innovation Law and the Sector Funds—are welcome steps. However, as argued throughout this report, the government now needs to takes

these measures further by creating a broader enabling environment in which private firms are willing to invest in innovation, take risks, and expand their productive activities into new, "less-safe" areas. In addition to increasing its overall investment rate, Brazil needs to further liberalize the economy, in part, to force firms to become more competitive.

Public investment in R&D needs to be made more effective, not just by producing more knowledge and technology, but by providing the infrastructure to commercialize and disseminate new knowledge (for example, technology parks, technology transfer offices, business incubators, and venture capital operations). Spain provides a notable example of how such efforts can work. Moreover, as we argue below, Brazil also must invest more in human capital through quality basic education and advanced skills training. Ireland, China, the Republic of Korea, and Singapore are just a few of many examples where this has been done massively and successfully.

This report proposes a broad new definition of innovation. As used here, the term refers not just to new products and processes, but also to new business processes and new ways of carrying out productive activities. We emphasize that innovation to improve TFP should not be understood simply as invention or the first use globally of a new technology, but also as the first application of a product or process in a specific setting. Because developing countries are behind the technological curve in most sectors, they need to think less about invention and more about doing things differently with available knowledge and technology that they can acquire. The report proposes a three-stranded typology of innovation—(a) creation and commercialization of new knowledge and technology; (b) acquisition of knowledge and technology from abroad for local use and adaptation; and (c) the dissemination and effective application of knowledge and technology (whether domestically created or acquired from abroad) that is already available in country though not broadly utilized. The significance of these distinctions is discussed below.

Creating and commercializing new knowledge and technology. In Brazil, investment in technological innovation comes mainly from the public sector—about 55 percent of the total, compared with about 30 percent in the United States. A research culture that is heavily and reliably financed by the public sector has excelled in the production of conceptual knowledge—for example, Brazil accounts for nearly 2 percent of articles published in internationally recognized research journals (roughly on par with Brazil's 2 percent of world GDP). On the other hand, substantial public expenditure has been far less successful at energizing technological innovation—for example, patents that can be commercialized. According to the World Intellectual Property Organization (WIPO), Brazil accounted for about 0.18 percent of patents in 2000. This compares with 3.4 percent of patents attributable to Sweden—that is, nearly 19 times more patents than Brazil despite a much smaller population. Similarly, Korea accounted for 1.7 percent of patents, more than nine times the rate for Brazil.

Ironically, Brazil invested in R&D infrastructure far earlier than most other developing countries. Yet this report finds that an intellectual and practical "disconnect" has now emerged in Brazil that is not always found elsewhere. The public universities and labs where most government-funded research is conducted primarily pursue "pure" conceptual knowledge. Private sector activity does not articulate with these universities and labs, unlike in other countries where entrepreneurial scientists and engineers typically have a foot in both worlds. Moreover, the private sector's own research capacity has been diminished by underinves-

tment from companies protected by trade barriers from foreign competition. The net result is that Brazil needs to pay far greater attention to what is produced through public investment, what happens to new knowledge once it is created, and how the private sector can be mobilized as an active partner. Strengthening the institutions and norms that protect intellectual property and supporting business incubators would help immediately.

A nation's capacity to create new knowledge and technology is closely associated with advanced technical skills and a tertiary education system that is particularly strong in science, engineering, and technology application. Brazil has emphasized the humanities and social sciences at the expense of science and engineering. Despite slow but steady growth in the latter disciplines, Brazil's tertiary education system still has far too little capacity to train advanced innovators who can work at the frontier of global knowledge creation. In China, the government has tapped and supported both public and private universities to increase enrollment rapidly and to leverage respective comparative advantage. As Brazil wrestles with the coverage, relevance, and resource needs of its higher education system, the Chinese examples could be instructive.

Acquiring and adapting global knowledge and technology. For countries not already on the cutting edge, it is generally more practical to acquire rather than invent new knowledge and technology. Transfer of technology can be accomplished through several means—direct foreign investment; licensing; technical assistance; technology embodied in capital goods, components, or products; copying and reverse engineering; foreign study; published technical information, especially on the Internet; twinning; cooperative training partnerships; distance learning; and more. Trade is probably the most direct and critical means of acquiring knowledge and technology—importing the latest versions of hardware, machinery, and software. Brazil is still struggling to reconcile the relative comforts of protectionism with the inevitable need to compete in global markets. In this respect, Brazilian firms are just awakening to the full benefits that acquired foreign technology can bring. Not surprisingly, the firm-level analysis of innovation undertaken for this report found large firms (and especially multinational firms) to be far ahead in innovation and productivity.

The capacity of firms to put acquired technologies to productive use points again to the challenges of human capital formation. Technology stands little chance of being adopted and adapted successfully if workers lack the basics in reading and math; or at a higher level, the ability to reason conceptually, think outside the box, and apply the scientific method. Workers with these skills are no less critical than higher-level managers who can quickly adjust to computerization or imaginatively redesign a production strategy. If firms cannot trust in the adaptability of their employees, they necessarily become risk-averse, opting for the low road to economic survival—heavier exploitation of cheap, unqualified labor (as we found occurring in the northeast of Brazil). In essence, both basic and advanced skills are needed for a firm to maximize the rewards of acquired innovation.

Disseminating and using knowledge and technology that is already available in-country. Firm's inputs, processes, and outputs were disaggregated, broken down by sector, size, and region. Data from the World Bank Investment Climate Survey (ICS) and the Brazilian PINTEC were used for this analysis, and the results are presented in this report. Microanalysis allowed a closer look at the characteristics of firms within and between sectors, as well as comparisons with firms in other countries. Some Brazilian firms were clearly found to be

innovators, mainly large enterprises with many employees and strong outputs. In general, however, Brazilian firms were found to innovate less than those of other countries. There is relatively little demand for innovation in the unsophisticated internal market. Protection continues to undercut the need for innovation and creative risk taking. Firm productivity is low, and dispersion of productivity is enormous. In fact, the report found that the dispersion in firm productivity in Brazil was much greater than in most other countries for which data were available, including India and China.

This report argues that using the knowledge already in Brazil provides the quickest and most-promising route for increasing productivity and competitiveness to spur growth. Through this third type of innovation—which is arguably the least expensive and most accessible—Brazil could increase productivity across all sectors. The report underscores the critical importance of firms being able to identify productive practices within the country and then having the inputs to replicate, enhance, and increase their own productivity. This third kind of innovation requires relatively greater effort at disseminating knowledge through channels such as industrial and service extension programs, technical information centers, and cluster-based technology improvement programs. Some innovation requires newer machinery and better physical inputs, as well as better management and organization. Equipment is not a magic bullet however. What matters is what happens on the shop floor. Can workers observe new practices first-hand, and is there an environment that rewards increased efficiency and productivity? Indeed, can workers accomplish the same things through better use of the equipment and inputs that they already have?

The fact that job tenure in Brazil is generally low—and lower still for less-skilled workers—might be expected to increase the flow of good practices between firms. In reality, however, this does not appear to be happening. We suggest that the lack of basic skills among workers is probably the single most significant obstacle to the use of new technology and equipment or the free flow of innovative practices across firms. Indeed, unskilled workers are likely to be risk-averse and more comfortable with the simple routine of procedures that do not demand additional formal training. Moreover, high job turnover may discourage effective firm-level training. Our study found that Brazilian firms do invest significant time and resources training their employees; however, in most cases this training focuses upon basic skills deficits that should have been addressed by the formal education system, not on the introduction of innovation to improve productivity on the shop floor.

One notable exception is the production chains that have been developed by SMEs that act as suppliers to large innovative firms such as Embraer, Petrobrás, Gerdau, Ford, and others. These smaller firms frequently are able to enhance their productivity by using technologies adapted from the larger innovative companies. Cases such as these tend to occur in specific geographic clusters. The local qualifications of human resources—both advanced and basic—are crucial to these processes, as the experience of Embraer demonstrates.

5. Improving Skills across the Labor Force

Brazil's unemployment rates worsened for all workers during the 1990s—ranging from those with no education through those with primary, secondary, and tertiary education. The proportion of unemployed university graduates rose to 16.4 percent, compared with an unemployment rate of 9.3 percent for the population at large. This is highly suggestive of a mismatch between the skills of formal educational system graduates and the needs of the labor market, rather than a sign that the labor market does not require advanced skills. The extremely high rate of secondary school dropout similarly reflects weakness in the school-to-work transition. Older secondary students, in particular, drop out because they know that staying in school will not necessarily provide additional opportunities for jobs or for meaningful job-oriented training. In addition, there are insufficient graduates from nonuniversity institutions and short-duration professional programs, such as those typically offered by community colleges in the United States and postsecondary technical institutes in Europe.

Strengthening tertiary education. It is well accepted that more and better education improves employability and earnings. However, average educational attainment for the Brazilian population 15 and older is still only 4.3 years. With only a quarter of the university-age population attending a tertiary institution, Brazil has the next-to-lowest gross enrollment rate among the larger Latin American countries, well below the continental average of 30.3 percent. The low enrollment rate in universities is mirrored by the very small proportion of the labor force with tertiary-level educational qualifications, 8 percent.

Despite many top-quality enclaves at the tertiary level, the overall lack of consistent high quality (especially in the absence of performance standards) is critical. Brazil is the world's eighth-most-populous country, yet no Brazilian university is to be found among the 100 top-ranked universities worldwide. Research production is concentrated in a very small group of elite public or state universities. A second tier of public and private universities has many pockets of excellence; but beyond that point on the spectrum—that is, in the vast majority of small underfunded private universities—quality is worse than uneven; and serious research is neither financed nor rewarded. At the federal universities, 83 percent of instructors are full-time academics, in contrast to about a third of instructors in the municipal universities and a fifth in the private institutions. In private universities, most instructors are part-time employees. Basically they earn an hourly wage, and they are paid according to the number of classes that they teach. The proportion of academics with a doctoral degree rose from 15 percent in 1994 to 21 percent in 2004. At the federal universities, the rate doubled from about 21 percent to 42 percent. The vast majority of academics not only have not been trained in research through doctoral training, they have virtually no opportunity to participate in publicly funded basic R&D. That does not mean, however, that they are more likely to engage in "practical" research or that they engage in outside-the-university research with private sector counterparts. To the contrary, the university and private sector realms remain consistently separate across the board. Unlike the Silicon Valley or Route 128 "models" in the United States—where well-trained innovators may constantly shift from university to private sector and back throughout their careers, or simply maintain a permanent presence in both—their Brazilian counterparts remain remarkably segregated. To an astonishing extent, the two worlds do not intersect, much less cross-fertilize. Similarly, only a relatively small minority of Brazilian faculty study abroad. In 2005, only 2,075 students were officially

sponsored for graduate studies outside Brazil. Only 1,246 foreign students attended Brazilian universities.

Other postsecondary training is offered by private providers and, in particular, by a set of institutions that form the "S-system." These nine institutions constitute the largest consolidated professional training system in Latin America, created by the National Confederation of Industry (CNI) and the State Federations of Industry. The system is financed through a compulsory 2.5 percent payroll tax. Present in about 60 percent of Brazilian municipalities, the S-system offers an estimated 2,300 courses per year and enrolls about 15.4 million trainees annually. While effectiveness of its training (and cost-efficiency of the system itself) has been hard to assess, the S-system plays a crucial role in providing specific training for workers, and could serve as the cornerstone for a lifelong learning framework in Brazil.

Access to tertiary education—especially at the most prestigious universities—is skewed heavily toward upper-income families. While approximately 69 percent of the population is classified as low income in Brazil, about 90 percent of students at UNICAMP (generally regarded as one of the top two universities) are not low income. This unequal distribution at UNICAMP is hardly unique; it reflects a continuing pattern of unequal opportunity across the system more broadly. At the secondary level, for example, about 90 percent of children from the highest income decile complete school, compared with only about 4 percent of children from the lowest decile of families.

Improving basic education. If a weak and relatively small tertiary education system presents a challenge for Brazil's innovation system, basic education is also at the heart of the country's low productivity and competitiveness. Besides too few educational opportunities in the absolute sense (and setting aside the social inequities of who benefits), the Brazilian education system is significantly deficient in the quality of education that it offers. As shown in this report, schools at the primary and secondary levels are failing to provide the minimum literacy and numeracy skills necessary for active citizenship, let alone productive participation in a technology-based labor market. According to the international PISA tests, approximately half of Brazilian 15-year-olds have difficulty reading or cannot read at all; and about three-fourths cannot manage basic mathematical operations. It is therefore unsurprising that this report found that while Brazilian firms invest significant resources in worker training, these efforts are mostly geared toward filling the basic skill gaps left by the formal education system. Companies should be building upon basic skills, not having to provide them.

As discussed in the report, there are many reasons for the unsatisfactory performance of the nation's schools, not least of which is the management and incentives of the teaching profession. Relatively, Brazil's 1.5 million teachers are reasonably well paid. They earn 56 percent more than the average national salary overall. (By contrast, teachers in OECD countries on average earn about 15 percent less than the average salary in their country). The pay gradient for Brazilian teachers is tightly defined by seniority. With few exceptions, neither penalties nor rewards are available as incentives for teacher performance, much less student learning. Unsurprisingly given the pace of enrollment expansion in recent years, funding for math, science, and technology enrichment has lagged far behind school construction and teacher hiring as a budget priority. Nearly a third of those who teach Brazil's 45 million students have not completed university training, and only about 20 percent hold masters degrees. For the most part, the training of those who are university-educated tends to be very

strong in pedagogical theory—but very weak in the applied art of teaching.

Over the past 20 years, the number of places in primary and secondary schools has increased dramatically; and access to primary education is now virtually universal. It is less certain, however, that the quality of education has increased. This is related less to absolute lack of financial resources (public educational expenditure rose from 3.9 percent of GDP in 1995 to 4.3 percent of GDP in 2005) than to management factors. For example, it is estimated that about 60 percent of school principals obtained their jobs based on political criteria. Computers in the schools (approximately 2 per 100 students compared with 28 per 100 in Korea) tend to be used by teachers and administrators, not by students—all the more significant for future technological innovation in a country where the vast majority of families do not have a personal computer at home.

The report also discusses the pedagogical and curricular factors that contribute to low quality in basic education. Classroom teaching at the primary level (especially in rural areas) is still conducted very much as it was a generation ago. That means students passively copy what the teacher writes on the board and are expected to learn by rote memorization, an approach diametrically opposite to the kind of active learning that rewards flexible thinking, conceptual reasoning, and problem-solving skills—in other words, the very traits that adult workers need for competitiveness in a knowledge economy.

In summary, the low level and skewed distribution of education among Brazilians explains more than the oft-studied cycle of poverty and inequality. Here, we argue that basic and advanced skills are critical inputs for the nation to harness innovation, increase productivity, enhance competitiveness, and accelerate economic growth—and that these needs presently are not being met.

6. From Analysis to Action: Who Needs to Do What?

The report proposes concrete actions in six key areas—the enabling environment, knowledge creation and commercialization, acquisition of foreign knowledge, leveraging and dissemination of technology use, basic education and skills, and tertiary education (advanced skills). Taken together, these recommendations represent a first step toward a comprehensive national plan for innovation. Continued analysis, increased public awareness, and a vigorous national debate can translate these recommendations into an integrated national strategy to foster innovation-led growth.

Leveraging innovation for economic growth necessarily encompasses a broad spectrum of issues and actors. This ranges from the overarching framework of the economic and institutional regime to highly technical specialized applications relating to R&D, foreign investment, and technology transfer; information technology; standards and quality control; finance and venture capital; education; and so forth. The final chapter recasts the broad array of recommendations from the perspective of which actors need to take what actions. The chapter addresses the many entities of government, the private sector, and civil society that will have to implement recommendations if ideas are to be translated first into action and then into reality.

Not all of the recommendations are of equal weight and priority; and for technical or political reasons, some will be far more difficult to implement than others. Some actions would require new laws through Congress. Some would require significant changes in policies or the regulatory environment; while others could be achieved by exerting a reasonable amount of political will. Some could be carried out with existing resources. Others would require significant mobilization of public and private funds. Some actions could be done rapidly. Others will require years of sustained efforts. Some actions will be difficult because they affect the interest of groups who benefit from the system the way it is.

Our work does not go so far as to prioritize or suggest details for a particular plan. That is necessary—including all the hard choices and tradeoffs that concrete action implies—though it is beyond the scope of the present report. What is clear is that Brazil needs to undertake a broad, systemic reform process in order to increase the competitiveness of its economy and to accelerate growth. There is a danger that the recently improved trade performance—driven by the current boom cycle in commodity prices—will improve economic performance enough to temporarily justify complacency. Given the fundamental changes that are taking place globally, that short-sighted approach would be costly.

Neither the government nor Brazilian society as a whole appear to be fully cognizant of the international trends and opportunity costs of failure to respond. Most governments and citizens of Asia do understand these trends, and they are responding—and that is an important reason why Asia is rising as the new base of economic power. For Brazil, the next step is to mobilize a mass campaign to raise public awareness. Brazil needs to see its performance in the broader global context, to analyze the new global challenges that it faces, and to discuss in a transparent way what must be done. The process of stocktaking and building stakeholder awareness is inherently a domestic political process. It needs to be locally driven and locally owned. It is hoped that this report will provide useful input into launching such a process.

R E V I S T A | J O U R N A L | R E V I S T A
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Survival of New Exporters in Developing Countries: Does It Matter How They Diversify?*

AREA: 5
TYPE: Application

Supervivencia de los nuevos exportadores en países en desarrollo: ¿es importante diversificar?

Sobrevivência nos novos exportadores nos países em desenvolvimento: Importa o modo como se diversificam?

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Recent studies have shown that developing countries might have significantly better export performance if they were able to increase the duration of their trade relationships. Evidence on duration of these relationships at the firm level is virtually absent. In this paper, we aim at filling this gap in the literature by analyzing what determines export survival using firm-level data for the whole population of Peruvian new exporters over the period 2000-2006. In particular, we address one question: Does it matter how firms diversify? We find that geographical diversification increases the probability of survival in export markets more than product diversification.

Estudios recientes han demostrado que los países en desarrollo pueden exportar con mayor rendimiento si son capaces de aumentar la duración de sus relaciones comerciales. Las evidencias de la duración de este tipo de relaciones a nivel empresarial son prácticamente inexistentes. En este artículo, pretendemos rellenar esta laguna analizando qué determina la supervivencia de las exportaciones mediante datos a nivel empresarial para toda la población de nuevos exportadores peruanos en el periodo 2000-2006. En particular, planteamos una pregunta: ¿es importante cómo diversifican las empresas? Concluimos que la diversificación geográfica aumenta la probabilidad de supervivencia en los mercados de exportación que la diversificación de los productos.

Estudos recentes demonstraram que os países em desenvolvimento podem ter desempenho de exportações significativamente melhores se conseguirem aumentar a duração das suas relações comerciais. São praticamente inexistentes os dados sobre a duração destas relações ao nível da empresa. No presente artigo, pretendemos preencher esta lacuna na literatura analisando o que determina a sobrevivência da exportação usando dados ao nível da empresa para toda a população dos novos exportadores peruanos no período de 2000-2006. Tratamos, em particular, uma questão: Importa o modo como as empresas se diversificam? Concluímos que a diversificação geográfica aumenta mais a probabilidade de sobrevivência nos mercados de exportação que a diversificação do produto.

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1. Introduction

The relevance of both entry and exit of firms in shaping economic performance has been largely recognized in the industrial organization literature. Several papers have characterized the patterns of entry and exit in manufacturing industries and have attempted to identify their main driving forces[1]. Firms' decision to enter into foreign markets, its determinants and its implications are also well documented in the international trade literature[2]. However, evidence on the determinants of firms' duration patterns in foreign market is scarce. This is rather surprising given that the length of survival can be considered one of the most comprehensive measures of firm performance (see Stigler, 1958). This paper aims at filling this gap in the empirical trade literature. More precisely, we examine export duration using highly disaggregated export data as well as other relevant firm-level information such as employment for Peruvian exporters over the period 2000-2006 and assess whether the type diversification contributes to explain the survival of trade flows.

The median duration of a Peruvian firm export spell over the period 2000-2006 is just one year. Exit rates from international markets are accordingly substantial. Thus, 54.4% of the approximately 2,100 Peruvian firms that entered into foreign markets in 2005 cease to export in 2006. Besedes and Prusa (2007) suggest that developing countries might have significantly better export performance, i.e., higher export growth if they were able to increase the duration of their trade relationships. In addition, exit from foreign markets may potentially have significant consequences. Thus, Girma et al. (2003) show that such an exit has a weak negative impact on firm's total factor productivity in the year exit takes place and a strong and quite persistent negative effect on firm's employment and output.

The industrial organization literature has established some stylized facts concerning the factors that affect the probability that a firm ceases to operate or exit particular markets. One of these facts is that the probability of exit decreases with the number of products produced and the number of markets served (i.e., if the firm is an exporter) (see, e.g., Bernard and Jensen, 2002; and Bernard and Jensen, 2007). This result can be rationalized in terms of a portfolio argument. If sales of different products (in different markets, domestic vs. foreign) do not perfectly covariate, then variability of sales should be lower for multi-product (exporter) firms and, as a consequence, the expected probability of survival should be higher (see Hirsch and Lev, 1971; Bernard and Jensen, 2002). Moreover, diversified firms are more likely to be more productive (see, e.g., Bernard et al., 2006) and may have access to resources, say, external or internal sources of capital, that can help them to avoid closure in case of a negative shock to one product (market) (see Jovanovic, 1993; Bernard and Jensen, 2007).

In this paper, we investigate whether this also applies to exit from export markets. More precisely, we address one main question: Does it matter whether and how firms diversify their exports to survive in international markets?

Key words
Exports, Duration, Firms, Peru

Palabras clave
Exportaciones, Duración, Empresas, Perú

Palavras-chave
Exportações, Duração, Firmas, Peru

JEL Codes
C410; F140; L250

1. See, e.g., Dunne et al. (1988), Dunne et al. (1989), Audretsch (1991), Audretsch and Mahmood (1995), Dunne et al. (2005), and Bernard and Jensen (2007).

2. See, e.g, Roberts and Tybout (1997), Clarides et al. (1998), Girma et al. (2004), and Bernard and Jensen (2004).

We apply survival methods to document Peruvian firms' export duration patterns and to assess the role played by diversification in determining these patterns over the period 2000-2006. In doing this, we use a unique firm-level dataset containing data on exports by product and countries, employment, and starting date over this period. Thus, we include relevant time-varying covariates such as size measured by employment, current exports, initial exports, and age group to account for observed firm characteristics that potentially affect the profit stream and henceforth the survival chances. We also control for unobserved heterogeneity.

We contribute to the literature in several ways. First, we provide, to our knowledge for the first time, evidence on export duration patterns at the firm level and explicitly analyze their determinants for a developing country, Peru[3]. More specifically, instead of just looking at the link between these characteristics and the intensity of participation in foreign markets as highlighted in theoretical models featuring firm heterogeneity (see, e.g., Melitz, 2003; Melitz and Ottavaino, 2005; and Helpman et al., 2007) and empirical studies testing their main results, we investigate whether there is heterogeneity in export duration patterns and whether and how this is systematically related to specific firm attributes. This might prove to be insightful for future theoretical developments in the international trade literature. Second, even though survival methods have been widely used to examine the life time of firms (see, e.g., Audretsch, 1991; Mata and Portugal, 1995; Klepper, 2002) and have been recently utilized to describe trade duration at the product level (see, e.g. Besedes and Prusa, 2006; Nitsch, 2007), our paper applies these methods to firm-level trade data. This allows us to account for both whether and when exactly firms exit from export markets, thus controlling for the evolution of the corresponding risk over time. Third, unlike most studies on firm export behavior, we consider the whole population of new exporters and accordingly cover all sectors. This is especially important for developing countries such as Peru where exports of natural resources and their products account for a large fraction of the country's total exports (see Giordano et al., 2006).

We find that both geographical diversification and product diversification of exports increase the chances of surviving in export markets. More specifically, selling to a larger number of countries and, in particular, a more uniform distribution of sales across countries are associated with a larger decrease in the risk of failing abroad than selling a larger number of products or having a more balanced export bundle in terms of goods. Furthermore, older and larger firms as measured in terms of employment as well as in terms of current scale of export operations are more likely to remain active in international markets.

The remainder of the paper is organized as follows: Section 2 explains the empirical methodology, which is essentially based on survival methods. Section 3 describes the dataset and presents some basic preliminary statistical evidence. Section 4 reports the main estimation results, and Section 5 concludes.

3. Álvarez and López (2008) use plant- level data for a sample of Chilean manufacturing firms, but their analysis of the determinants of entry and exit patterns is confined to the sectoral level.

2. Empirical Methodology

We are interested in measuring the duration of firms' exports, i.e., the time elapsed until firms' trade flows are interrupted, and in identifying the factors that affect the risk of these flows to be dropped. When measuring export duration with available data, some problems arise. First, some observations on the duration of trade flows may be right-censored. This is the case when spells are in progress, i.e., we just know the duration from the inception of the spell to the final year of the sample period. Second, spells may be left-censored. In this case, actual duration cannot be determined because the time from the inception of the spell to the first sample year is unknown. In our case, left-censoring would be less a problem because we just focus on new exporters[4].

Survival analysis methods allow addressing the special problems associated with duration data. These methods take into account the evolution of the exit risk and its determinants over time. They are based on the concept of conditional probabilities (e.g., the probability of an export flow to last 7 years, given that has lasted 6 years) instead of the unconditional probabilities (e.g., the probability of an export flows to last exactly 7 years)[5].

Formally, let $T \geq 0$ denote the duration of exports, which has some distribution in the population and t a particular value of T. The survivor function S(t) is defined as follows:

$$S(t) = P(T \geq t) = 1 - F(t) \qquad (1)$$

The survivor function gives the probability that the duration of the spell T equal or exceeds the value t and, as such, it is the complement of the probability distribution of duration F(t) whose corresponding density function is given by $f(t) = dF(t)/dt$. The distribution of durations can be also characterized in terms of the hazard function. Let $P(t \leq T < t+\Delta t | T \geq t)$ be the probability of an export flow to cease in the interval $[t, t+\Delta t)$ given that it has lasted until time t. The hazard function is obtained by taking the limit of this probability for small Δt (see Kiefer, 1988):

$$\lambda(t) = \lim_{\Delta t \to 0} P(t \leq T < t+\Delta t \,|\, T \geq t)/\Delta t = f(t)/S(t) \qquad (2)$$

$\lambda(t)$ is the (instantaneous) rate at which export flows disappear at duration t, given that they last until t.[6]

The explanatory variables can affect the distribution of durations in several ways depending

4. Further, short spells may be underrepresented in the sample, i.e., there may be length-biased sampling (see Kiefer, 1988). This problem is more relevant for duration of unemployment than for that of trade flows because firms do not necessarily export every month.

5. In contrast, traditional cross-section techniques examine the unconditional average probability of occurrence of the event during the sample period (e.g., logit or probit) or the average duration (e.g., OLS) (see Esteve Pérez et al., 2004).

6. The hazard function provides a convenient definition of duration dependence. To see why, this function can be written in the following way: $\lambda(t) = -d\ln S(t)/dt$. If $d\lambda(t)/dt > 0$ at point t=t*, then the probability that a spell end shortly increases as the spell increases in length, i.e., there is positive duration dependence at t*. In contrast, If $d\lambda(t)/dt < 0$ at point t=t*, then the probability that a exports cease shortly decreases as the spell increases in length, i.e., there is negative duration dependence at t*.

on the specification used. We adopt here a proportional hazard specification, so that the effect of the regressors consists of multiplying the hazard function itself by a scale factor, i.e., their effect is a parallel shift of the baseline function, which is estimated for all those firms whose export flows survive up to a particular period (see Kiefer, 1988). Formally:

$$\lambda(t) = \lambda_0(t) exp\left(x(t)'\beta\right) \qquad (3)$$

where λ_0 is a baseline hazard, which is an unknown, x is a vector of time-varying explanatory variables and β is a vector of parameters, which is also unknown[7]. We estimate this model semi-parametrically using the partial-likelihood approach proposed by Cox (1972). More specifically, the model is estimated maximizing a partial likelihood function with respect to the vector of coefficients β without specifying the form of the baseline hazard function λ_0 .This approach has the advantage of avoiding potential misspecification of this function (see Dolton and von der Klaauw, 1995).

Partial likelihood allows us to easily deal with censoring and ties. Let t1<t2<…<tn be completed export spells ordered according to their length among n observed survival times. The contribution of the jth shortest duration is

$$exp\left(x_j'\beta\right) \Big/ \sum_{i=j}^{n} exp\left(x_i'\beta\right) \qquad (4)$$

The partial likelihood function is obtained multiplying these contributions together for each of the incidences of exit and accordingly the resulting log-likelihood is (see Kiefer, 1988)[8]:

$$L(\beta) = \sum_{i=1}^{k}\left[x_i'\beta - \ln\left(\sum_{j=i}^{n} exp\left(x_j'\beta\right)\right)\right] \qquad (5)$$

The intuition is that, in absence of information on the baseline hazard, only the order of the durations provides information about the unknown coefficients. Maximization of this log-likelihood function yields estimators of coefficients β with the usual properties of maximum-likelihood estimators (see Audretsch and Mahmood, 1994). The estimated coefficients indicate the relationship between the covariates and the hazard function. Thus, a positive (negative) coefficient increases (reduces) the value of the hazard and it therefore indicates a negative (positive) impact on survival.

Note that an individual whose spell is censored between durations tj and tj+l appears in the summation in the denominator of the contribution to log-likelihood of (ordered, uncensored) observations 1 through j, but not in any others. On the other hand, censored spells do not enter the numerator of the contribution at all (see Kiefer, 1988). Ties are handled by including a contribution to log-likelihood for each of the tied observations using the same denominator for each (see Breslow, 1974)[9].

7. λ_0 is the baseline hazard corresponding to $\exp(x'\beta)=1$, i.e., when the covariates are equal to 0.

8. Note that the baseline hazard is assumed to be the same for all observations, so that, due to the proportional hazard assumption, it cancels out.

9. Formally, in the case of ties, Breslow (1974) proposes to maximize the following log-likelihood: $L(\beta)=\sum_{i=1}^{k}\left[s_i'\beta - \ln\left(\sum_{j=i}^{n} exp\left(x_j'\beta\right)\right)\right]$ where mi is the number of exits occurring at ti and si is the sum of covariates over the mi observations.

Firms may enter foreign markets some year, exit the following year, re-enter the next one, and so successively. In particular, in our sample, 845 firms entered, exited, and re-entered export markets, and 416 firms entered, exited, re-entered, and exited again. Hence, there are multiple export spells and two or more events of interest occur to the same firm. In these cases, failure times may be correlated within firms. Thus, a first exit from export markets could make more likely to exit again. On the other hand, we can conceivably argue that re-enter international markets reveals certain abilities of the firm that could be associated with lower risks of exit a second time (see Besedes and Prusa, 2006). In this case, the assumption that export durations are independently distributed over time conditional on observed covariates would be violated (see Kovacevic, 2002). These interdependencies should be therefore controlled for. In order to deal with this issue we estimate the model parameters without explicitly modeling their dependencies, and then correct the covariance matrix to account for the within-individual correlation (see Lin and Wei, 1989)[10].

More generally, there may be unobserved firm heterogeneity, i.e., systematic differences may remain in the distribution of durations across units of observation after conditioning on observed explanatory variables[11]. When this is the case, inferences about duration dependence and the effect of included covariates may be misleading (see Kiefer, 1988). In particular, in the proportional hazard model, ignoring heterogeneity leads to underestimating the proportional effect of the explanatory variables (see van der Berg, 2001). We model the unobserved characteristics as a random effect and assume that it enters multiplicatively on the hazard function (see Clayton and Cuzick, 1985). Formally:

$$\lambda_i(t) = \theta_i \lambda_0(t) exp\left(x(t)'\beta\right) \qquad (6)$$

where is θ_i is a random variable that is assumed to be independent of x(t). A log-likelihood is obtained by conditioning on the unobserved θ_i and then integrating over its distribution. In this paper, we assume that θ_i follows a gamma distribution with mean equal to one[12]. This distribution has the advantage of giving a closed form expression for the likelihood, thus avoiding numerical integration (see Meyer, 1990)[13].

10. Besedes and Prusa (2006) treat multiple spells as independent and use a dummy to account for higher order spells.

11. Failure to control for firm characteristics shared by export spells precisely results in dependencies among these spells (see Kovacevic, 2002).

12. The distribution of the random effect converges to the gamma distribution for proportional hazard models with unobserved heterogeneity (see Abbring and van der Berg, 2007).

13. The inverse Gaussian distribution also has this property (see Hougaard, 1984).

3. Data, Variables, and Descriptive Statistics

Our dataset consists of two main databases. On the one hand, we have highly disaggregated export data at the firm level over the period 2000-2006. Data cover all new exporters, i.e., firms that registered their first exports from 2000 onwards[14]. These data are reported annually at the firm-product-country level. Specifically, each record includes the firm's tax ID, the product code (10-digit HS), the country of destination, and the export value in US dollars. On the other hand, we have data on employment and starting date from the National Tax Agency, SUNAT, for the same period. Firms are also identified by their tax ID in this case, so that the both databases could be easily merged.

These data enable us to construct the following variables which are identified as key determinants of exit in the empirical literature on industrial organization: number of countries in which the firms sell their products, number of products they sell abroad, number of employees, current scale of operations (total current exports), initial scale of operation (total exports in the first year they appear as exporters), and age[15].

Table 1 characterizes Peruvian new exporters in terms of these variables over our sample period. The number of firms entering export markets for the first time has been growing steadily, from 1,359 to 2,132 between 2000 and 2006. In recent year, the average new exporter sells abroad more than 100,000 US dollars, exports around five products to 1.3 countries. These firms have between 10 and 20 employees and are approximately six years old.

The event of interest of our study is exit from export markets. We define this event as occurring in the year for which there is no register of export activity. Table 2 reports for each year the number as well as the share of firms which having started to export this year do not appear as exporters in the next year and in all subsequent years. We have seen before that the number of newcomers has been rising. This table shows that the number of exiting firms has increased as well. However, the annual export mortality rate has declined in recent years. Thus, while 923 firms out of the 1,546 firms that engaged in international trade in 2002 interrupted cross-border operations in 2003, 1,124 firms out of the 2,132 firms that entered export markets in 2005 ceased to export in 2006, which amounts to a decrease in the exit rate from 59.7% to 54.4%.

Export flow survival patterns can be characterized using the survivor function. This function can be estimated using the Kaplan-Meier or product-limit estimator, which is defined as follows:

$$\hat{S}(t_j) = \prod_{i=1}^{j}\left[(n_i - k_i)/n_i\right] = \prod_{i=1}^{j}\left(1 - \hat{\lambda}_i\right) \qquad (7)$$

where nj is the number of spells neither completed or censored before duration tj, kj is the number of completed spells of duration tj, and $\hat{\lambda}_i$ is the number of exits at duration tj divided by the number of units of observations at risk of exiting at duration tj, i.e., the estimated probability of completing a spell at duration tj, given that the spell has reached duration tj. Hence, the conditional probability of completing a spell at duration tj is estimated with the observed

14. These firms do not register any exports back to 1995.

15. In the econometric analysis below, we work with the natural logarithm of these variables, but age, whose influence is captured through binary variables identifying four categories: 1-5 years, 6-10 years, 11-20 years, and more than 20 years. Age cannot enter directly in the Cox specification because it would be collinear with the baseline hazard (see Disney et al., 2003).

relative frequency of completion at duration tj[16].

Table 1

Average Peruvian New Exporter						
Year	Number of Firms	Total Exports	Number of Countries	Number of Products	Employmen	Age
2000	1,359	87,981.18	1.34	4.16	24.80	6.57
2001	1,456	94,893.43	1.31	4.28	42.06	6.39
2002	1,546	194,991.91	1.29	4.64	16.97	5.77
2003	1,681	70,765.35	1.35	4.96	18.08	6.36
2004	1,811	100,006.26	1.29	4.76	10.78	5.64
2005	2,068	118,632.23	1.30	5.94	17.84	5.46
2006	2,132	129,010.83	1.35	5.53	12.58	7.05

Source: Own elaboration on data provided by PROMPERU and SUNAT.

Table 2

Exit from Export Markets				
Year	Firms Not Exporting the Next Year		Firms Not Exporting the Subsequent Years	
	Exit Rate	Number of Exits	Exit Rate	Number of Exits
2000	0.575	781	0.461	626
2001	0.591	861	0.481	701
2002	0.597	923	0.503	777
2003	0.585	983	0.517	869
2004	0.570	1,032	0.526	952
2005	0.544	1,124	0.544	1,124

Source: Own elaboration on data provided by PROMPERU and SUNAT.

16. It can be shown that this is a maximum-likelihood estimator (see Kiefer, 1988).

The equality of the survivor functions across different groups defined along relevant variables can be formally tested using univariate survival tests, which basically are extensions to censored data of conventional non-parametric rank tests for comparing distributions, e.g., log-rank; Peto-Peto-Prentice; Wilcoxon-Breslow-Gehan; Tarone-Ware; and trend[17]. These tests differ in the weight or weighting function used when computing the corresponding test statistics[18]. Under the null hypothesis, there are no differences between the survival patterns of the groups at any failure time and these statistics are distributed as a χ^2 with h-1 degrees of freedom, where h is the number of groups.

Figures 1 and 2 show the survivor functions for firms with different degrees of export diversification in terms of countries and products, respectively. These figures clearly indicate that diversifying external sales over countries and products increases duration in export markets. The relevant test statistics reported in Table 3 specifically indicate that the differences in survival across firms with different degrees of geographical and product diversification of their external sales are statistically significant. Thus, while less than 50% (less than 50%) of the firms exporting to one country (product) survives from the first to the second year, almost 75% (approximately 50%) of the firms exporting to two countries (products) do. More precisely, the figures suggest that increasing the number of countries served seems to reduce the risk of exiting foreign markets more than increasing the number of products exported.

Figure 3 show how the other variables relate to survival in export markets. In particular, the upper panel of this figure displays the survivor functions for employment and age categories. Consistent with previous evidence on firm time life, larger and older firms are more likely to survive in export markets. Thus, after six years, more than 50% of the large firms remain in export markets, but less than 20% of the micro firms do. Differences are smaller across age groups, but they are still substantial. While more than 30% of the firms older than 20 years continue operating in export markets after this period, just 20% of the firms created within the last 10 years are able to do so. The bottom panel of Figure 3 reveals how survival patterns change across size categories defined in terms of the level of activity being considered, i.e., across initial and contemporary export value segments (i.e., quintiles). The evidence is also clear in this case. Larger exports, both initial and current, are associated with lower hazards. Note that the differences across these functions are also statistically significant across the relevant tests (see Table 3).

This section has explored unconditional associations between the variables of interest and firm survival patterns in export markets. The next section will assess the impact of these variables in a conditional framework.

17. See Breslow (1970), Wilcoxon (1945), Peto and Peto (1972), Prentice (1978), and Tarone and Ware (1977).

18. The contribution to the test statistics at each failure time is obtained as the weighted standardized sum of the differences between the observed and expected number of exits in each group.

Figura 1

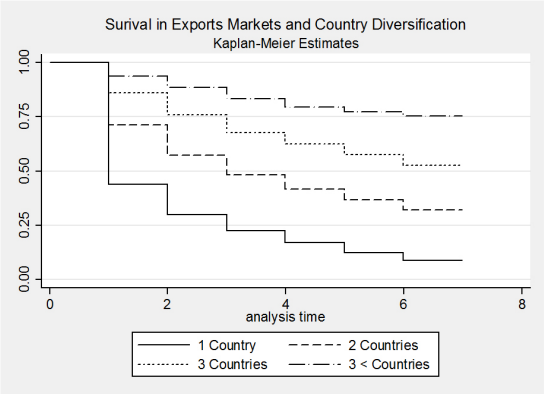
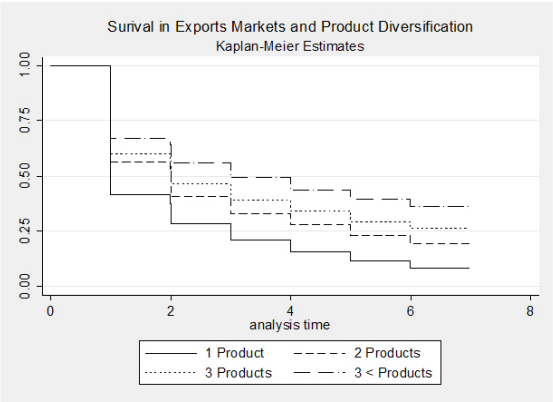
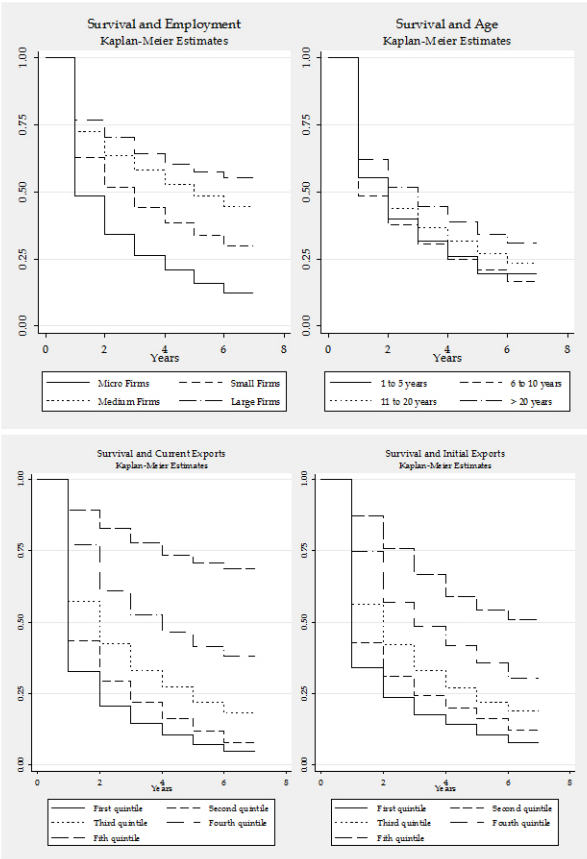


Figura 2



Source: Own elaboration on data provided by PROMPERU and SUNAT.

Figura 3



Source: Own elaboration on data provided by PROMPERU and SUNAT.

Table 3

Variables\Tests	Log-rank	P-P-P	W-B-G	T-W	Trend
Number of Countries	2677.440*** [0.000]	2442.177*** [0.000]	2197.252*** [0.000]	2518.062*** [0.000]	2677.440*** [0.000]
Number of Products	1272.787*** [0.000]	1065.569*** [0.000]	932.079*** [0.000]	1117.094*** [0.000]	1272.787*** [0.000]
Employment	986.363*** [0.000]	801.039*** [0.000]	684.41*** [0.000]	848.297*** [0.000]	986.363*** [0.000]
Age	137.122*** [0.000]	117.79*** [0.000]	107.013*** [0.000]	123.052*** [0.000]	137.122*** [0.000]
Export Initial Value	3171.175*** [0.000]	2855.808*** [0.000]	2569.678*** [0.000]	2951.516*** [0.000]	3171.175*** [0.000]
Export Current Value	1997.007*** [0.000]	2104.982*** [0.000]	2016.305*** [0.000]	2109.180*** [0.000]	1997.007*** [0.000]

Source: Own elaboration on data provided by PROMPERU and SUNAT.
The table reports the test statistics and the corresponding p-values (within brackets) of the long-rank, Peto-Peto-Prentice, Wilcoxon-Breslow-Gehan, Tarone-Ware, and trend tests for each explanatory variable. * significant at 10% level; ** significant at 5% level; *** significant at 1% level.

4. Estimation Results

Table 4 reports hazard ratios for the main covariates obtained with the Cox's proportional hazard model. In this case, estimated coefficients larger than one mean that the variable in question is associated with an increased risk of exiting export markets (i.e., reduces expected duration), whereas the opposite holds when the estimated coefficients are smaller than one.

Geographical and product diversification reduces the probability of exiting international markets. Two main explanations can be postulated for this finding. First, there is a portfolio argument. Specifically, if covariance of firm sales across countries (products) is not perfect, then a larger spread of these sales over countries (products) will be associated with more stable total sales and this can be expected to result in higher likelihood of remaining active, in general, and in international markets, in particular (see Hirsch and Lev, 1971; Bernard and Jensen, 2002). Second, there is an efficiency argument. Heterogeneous firm models highlight that only the more productive firms are able to pay the sunk costs to enter export markets. This has a natural extension into a multi-country (multi-product) setting. Thus, if adding a new destination country (product) requires incurring in specific sunk costs of entry, then trading with a larger number of countries (a larger number of products) will reflect

higher productivity (see Bernard et al., 2006). Diversified, more productive firms are precisely those which are more likely to survive. Moreover, these firms may have access to resources that can reduce the exit probability in case of a negative shock to one country (product) market (see Jovanovic, 1993; Bernard and Jensen, 2007).

Table 4

Baseline Estimates					
Explanatory Variables	(1)	(2)	(3)	(4)	(5)
Number of Countries	0.654*** (0.011)	0.686*** (0.012)	0.690*** (0.012)	0.730*** (0.013)	0.761*** (0.013)
Number of Products	0.987*** (0.002)	0.984*** (0.002)	0.984*** (0.002)	0.986*** (0.002)	0.988*** (0.002)
Employment		0.881*** (0.005)	0.877*** (0.006)	0.886*** (0.006)	0.899*** (0.006)
Age 1: 6 to 10 years			1.140*** (0.023)	1.091*** (0.022)	1.014 (0.019)
Age 2: 11 to 20 years			1.010 (0.025)	0.954* (0.024)	0.919*** (0.023)
Age 3: More than 20 years			1.100*** (0.035)	1.033 (0.033)	0.933** (0.030)
Export Initial Value				0.924*** (0.003)	1.032*** (0.006)
Export Current Value					0.865*** (0.006)
Year Fixed Effects	No	No	No	No	Yes
Frailty	No	No	No	No	No

Source: Own elaboration on data provided by PROMPERU and SUNAT.
The table reports Cox Proportional Hazard estimates (hazard ratios). All variables but age are expressed in natural logarithms. Age 0: 1 to 5 years is the omitted category. Robust standard errors clustered on firms are reported below hazard ratios between parentheses. * significant at 10% level; significant at 5% level; *** significant at 1% level.

More specifically, selling to a larger number of countries diminishes this probability more than selling a larger number of products. This may reflect either that shocks are less correlated across countries for given products than across products for given countries, so that exporting to more countries has a larger stabilizing effect on total external sales than just exporting more products, or that firms spreading their exports over more countries are more productive than those diversifying over products, which would be the case if specific sunk costs incurred when incorporating new destinations are larger than those faced when adding new products.

As expected, size as measured by employment and the current scale of export operations improve the chances of survival. There are several reasons for this to be the case. First, large firms are more likely to operate at a minimum efficient scale and accordingly are a priori in a better position to survive. In addition, if firms learn about their abilities and revise their estimations over time, then firms that grow and become larger are those that have received favorable information and have better expectations about efficiency, and should accordingly face a lower likelihood of exit in the next period than those that do not (see Dunne et al., 1989; Mata et al., 1995)[19]. This is specifically true for infant industries in developing countries, i.e., a large post entry size implies that the firm has been able to learn and adapt in such an uncertain environment (see Das and Srinivasan, 1997). Smaller firms, in contrast, employ the less able managers, who are likely to incur in larger mistakes when estimating the true ability level, and would be the first to exit when wages grows and the opportunity cost of being an entrepreneur increases (see Mata and Portugal, 1995). Moreover, large firms may have better access to capital or labor markets, which improves their chances of survival (see Esteve Pérez et al., 2004). Further, large firms might be expected to use more capital intensive methods. As a consequence, their variable costs represent a smaller proportion of their total costs. This makes them less sensitive to price declines (see Mata and Portugal, 1995)[20].

In contrast, initial export volumes elevate the risk of exiting. In general, the literature reports that the initial scale of operation is negatively related with this risk (see, e.g., Audretsch, 1991; Audretsch and Mahmood, 1994; and Disney et al., 2003). Small initial size can be the consequence of limits from both the supply and the demand size. Thus, entering at smaller scale can be result of lack of internal finance and/or imperfections in capital markets (see Holtz-Eakin, et al., 1994). Further, entrants that are less optimistic about their unknown cost efficiency may rationally decide limit themselves by starting out small. In proceeding this way, they reduce their sunk commitment, but face higher unit costs. These firms are therefore expected to be less able to stay in the market in the event of reactions by incumbents or market developments leading to unexpected losses, even for short periods (see Mata and Portugal, 1995). On the contrary, large scale entry may reveal greater a priori expectations of positive profits and more periods with bad results are required to overweight these expectations (see Frank, 1988; and Caves, 1998). On the other hand, in an uncertain environment buyers that must make irreversible investments in training suppliers may opt for starting business relationships at a small scale (see Rauch and Watson, 2003). In this case, smaller initial sizes are also associated with higher exit rates and shorter duration.

As can be seen from comparing estimates in Columns (4) and (5) of Table 4, the difference between previous empirical findings and ours can be traced back to the fact that we simultaneously control for current exports. Thus, our results should be interpreted as suggesting that, among firms that, at a certain period, have a given size and have reached a given scale of operation, those that have started out smaller and hence have experienced a higher post-entry growth face a higher probability of remaining active in international markets (see Mata et al., 1995). Alternatively, a large entry size for a given post-entry size can be viewed as

19. This is also consistent with Lucas (1978), who argues that the size distribution of firms is determined by their relative efficiency.

20. Bernard at al. (2006) find that firms are more likely to drop products the smaller is the production of the good by the firm and the shorter is the firm's tenure in producing the good.

signaling a slow growing firm facing negative shocks, which eventually lead to exit. In particular, fluctuations in industry-wide shocks tend to be more common in developing countries such as Peru. In this context, large entry size may become a liability as it may negatively affect flexibility to timely respond to these shocks and thereby firms' survival chances (see Das and Srinivasan, 1997)[21].

Finally, we find that age has a positive effect on duration, i.e., older firms are more likely to survive. These firms have more precise information on their intrinsic productivity and are therefore less likely to fail, i.e., their future expectations of cost efficiency are less likely to be below that level that would induce exit (see Evans, 1987; Fariñas and Moreno, 2000; and Disney et al., 2003)[22]. This is the case when firms learn about their efficiency level through production over time as in Jovanovic's (1982) model[23].

We have performed several robustness checks. In Table 5, we control both for macroeconomic conditions including year-fixed effects and for unobserved heterogeneity. Estimates shown there confirm our main findings[24]. In Table 6, we use alternative export diversification indicators. More concretely, we include the Herfindahl and Gini indexes computed over exports by countries and exports by products as explanatory variables instead of the number of countries and the number of products, respectively. Notice that an increase of these indexes corresponds to a decrease in export diversification along the relevant dimension. Thus, as before, larger diversification (smaller concentration) reduces the probability of exiting export markets and this reduction is larger for firms diversifying on the country-extensive margin. The same holds when we proxy diversification with the number of continents the firms export to and the number of industries (at the 2-digit level) in which they appear as active exporters and a combination of the latter with the number of countries. Summing up, there is strong evidence indicating that our main results are robust across alternative specifications

21. This would be the case if Jovanovics's (1982) model were extended to allow for contemporaneous shocks such as fluctuations in market demand or costs (see Das and Srinivisan, 1997).

22. Stinchcombe (1965) identifies four reasons for new firms to be more likely to fail than older firms, i.e., "liability of newness". First, new firms depend on new roles and tasks that have to be learned at some cost. Second, some roles may need to be invented and this may conflict with constraints on resources. Third, social interactions in new firms may lack the required common normative basis or informal information structure. Finally, stable relationships with clients and providers are not established.

23. Strictly speaking, Jovanovics's (1982) model predicts a negative relationship between age and hazard rates if the required efficiency level below which exit occurs (the failure boundary) does not increase (decrease) rapidly with age (see Dunne et al., 1989; and Disney et al., 2003). Some studies have however found that the probability of exit increases with age, i.e., there might be a "liability of senescence" (see Hannah, 1998). This would be the result of erosion of technology, products, business concepts, and management strategies over time or, in the case of owner-managed firms, problems in finding a successor (see Esteve Pérez et al., 2004).

24. We have also performed these estimations in a discrete time framework. Estimation results, which are similar to those presented here, are available from the authors upon request.

Table 5

Robustness Check I: Macroeconomic Conditions and Unobserved Heterogeneity			
Explanatory Variables	(1)	(2)	(3)
Number of Countries	0.761*** (0.013)	0.759*** (0.014)	0.744*** (0.014)
Number of Countries	0.988*** (0.002)	0.986*** (0.001)	0.985*** (0.001)
Employment	0.899*** (0.006)	0.876*** (0.007)	0.890*** (0.007)
Age 1: 6 to 10 years	1.014 (0.019)	1.238*** (0.025)	1.208*** (0.025)
Age 2: 11 to 20 years	0.919*** (0.023)	0.923*** (0.031)	0.92*** (0.031)
Age 3: More than 20 years	0.933** (0.030)	0.816*** (0.039)	0.864*** (0.040)
Export Initial Value	1.032*** (0.006)	1.072*** (0.008)	1.067*** (0.008)
Export Current Value	0.865*** (0.006)	0.818*** (0.008)	0.817*** (0.008)
Year Fixed Effects	Yes	No	Yes
Frailty	No	Firm	Firm
Test Statistic (Chi-Squared) p-value		49.582**** [0.000]	45.894*** [0.000]

Source: Own elaboration on data provided by PROMPERU and SUNAT.
The table reports Cox Proportional Hazard estimates (hazard ratios). All variables but age are expressed in natural logarithms. Age 0: 1 to 5 years is the omitted category. Robust standard errors clustered on firms are reported below hazard ratios between parentheses. * significant at 10% level; significant at 5% level; *** significant at 1% level.

Table 6

Robustness Check II: Alternative Diversification Measures				
Explanatory Variables	(1)	(2)	(3)	(4)
Herfindahl Countries	5.112*** (0.068)			
Herfindahl Products	1.512*** (0.070)			
Gini Countries		8.810*** (0.133)		
Gini Products		1.871*** (0.051)		
Number of Countries			0.747*** (0.014)	
Number of Sectors			0.953*** (0.004)	0.949*** (0.004)
Number of Continents				0.611*** (0.026)
Employment	0.887*** (0.007)	0.871*** (0.007)	0.885*** (0.007)	0.871*** (0.007)
Age 1: 6 to 10 years	1.210*** (0.025)	1.208*** (0.025)	1.214*** (0.025)	1.218*** (0.025)
Age 2: 11 to 20 years	0.913*** (0.031)	0.907*** (0.031)	0.914** (0.031)	0.909*** (0.031)
Age 3: More than 20 years	0.856*** (0.040)	0.853*** (0.040)	0.857*** (0.040)	0.862*** (0.040)
Export Initial Value	1.072*** (0.008)	1.070*** (0.008)	1.065*** (0.008)	1.067*** (0.008)
Export Current Value	0.799*** (0.008)	0.794*** (0.008)	0.816*** (0.008)	0.804*** (0.008)
Year Fixed Effects	Yes	Yes	Yes	Yes
Frailty	Firm	Firm	Firm	Firm
Test Statistic (Chi-Squared) p-value	42.231*** [0.000]	41.140*** [0.000]	43.231*** [0.000]	46.127*** [0.000]

Source: Own elaboration on data provided by PROMPERU and SUNAT.
The table reports Cox Proportional Hazard estimates (hazard ratios). All variables, but Herfindahl and Gini Indexes and age, are expressed in natural logarithms. Age 0: 1 to 5 years is the omitted category. Robust standard errors clustered on firms are reported below hazard ratios between parentheses.
* significant at 10% level; significant at 5% level; *** significant at 1% level.

5. Concluding Remarks

Survival in export markets is challenging. According to data from Peru, the median duration of a firm export spell is only one year. While extensive research on entry and exit patterns of firms in manufacturing industries within countries is available, little is known about duration of firms' business relationships with foreign partners and its determinants, especially in developing countries. This is rather striking as recent studies been shown that this factor may have important consequences in terms of firms' employment and output and even in terms of countries' overall export performance. This paper has therefore aimed at filling the aforementioned gap in the literature examining export duration using highly disaggregated export firm-level data from Peru over the period 2000-2006 and assessing whether the type of diversification contributes to explain the survival of firms in international markets.

We find that both geographical diversification and product diversification of exports increase the chances of remaining an exporter and, specifically, that exporting to a larger number of countries and, in particular, having a less concentrated distribution of exports across countries decreases the exit risk more than exporting a larger number of products or having a more balanced export bundle in terms of goods. Moreover, older and larger firms in terms of their number of employees as well as firms with larger current exports are more likely to survive in international markets. The opposite is true for exporters that start up large. We believe that our findings provide valuable insights for an effective export promotion policy in developing countries comparables to Peru.

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A Practical Approach for Quantifying Country Risk

AREA: 2
TYPE: Application

Un enfoque práctico para cuantificar el riesgo del país
Uma abordagem prática para quantificar o risco de país

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In most emerging market valuations a "country risk premium" is added to the CAPM discount rate of an equivalent investment in a developed market. However, this is not only a flawed procedure but also it is extremely difficult to gauge how country risk might affect the discount rate. In this paper a practical method is proposed to appraise country risk mainly through its impact on projected cash flows, leaving its possible effect on the discount rate as a secondary consideration.

En la mayoría de las valoraciones de mercados emergentes, se añade un "premio de riesgo del país" a la tasa de descuento CAPM de una inversión equivalente en un mercado desarrollado. No obstante, éste no sólo es un procedimiento erróneo, sino realmente complejo para medir el modo en que el riesgo del país afecta a la tasa de descuento. En el presente artículo, se propone un método práctico para valorar el riesgo del país a través de su impacto en flujos de caja proyectados, dejando su posible influencia en la tasa de descuento en un segundo plano.

Na maioria das avaliações de mercados emergentes, é adicionado um «prémio de risco do país» à taxa de desconto CAPM de um investimento equivalente num mercado desenvolvido. No entanto, este é não apenas um procedimento erróneo como é extremamente difícil medir o modo como o risco de país pode afectar a taxa de desconto. No presente artigo, é proposto um método prático para avaliar o risco de país sobretudo através do respectivo impacto nos fluxos de caixa, deixando o seu possível impacto na taxa de desconto como consideração secundária.

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1. Introduction

This paper pretends to shed some light on the way country risk must be built in for valuations in emerging markets. In most emerging market valuations a risk adjustment takes place by adding a spread called the "country risk premium" to the rate determined by the CAPM of an equivalent investment in a developed market. Besides, some analysts also modify expected cash flows to reflect country uncertainties. This means that country risk is taken into account twice--in the discount rate and in the cash flow projections.

Incorporating a country risk premium in the discount rate is inconsistent with the assumptions of the CAPM. And if country risk is going to have an impact on the discount rate a way must be found to modify the CAPM without altering its fundamentals.

In this article it is proposed to appraise country risk mainly through its impact on projected cash flows, leaving its possible effect on the discount rate as a secondary consideration. The main emphasis is on building a model where all relevant variables and risks are adequately integrated. Then a Monte Carlo simulation is performed to obtain a probability distribution for the present values of the firm or project. Finally, the discount rates selected by the analyst (however inaccurate) together with their corresponding expected present values are contrasted with the simulation's results in order to make an educated decision[1].

KEY WORDS
Country Risk, Capital Budgeting, Discount Rates, Valuation, Emerging Markets

PALABRAS CLAVE
Riesgo del país, Presupuesto de capital, Tasas de descuento, Valoración, Mercados emergentes

PALAVRAS-CHAVE
Risco de País, Orçamentação de Capital, Taxas de Desconto, Avaliação, Mercados Emergentes

2. The Country Risk Adjustment

Most practitioners are convinced that developing countries are inherently riskier. Hence a higher return must be expected from investments in these nations to account for the additional "country risk." In most valuations this risk adjustment is accomplished by adding a spread called the "country risk premium" to the discount rate of an equivalent investment in a developed market.
The majority of practical models are based on the CAPM (Capital Asset Pricing Model). The most popular one is probably the following adapted CAPM:

$$E(R)_C = R_f + \beta_{B,M} \cdot \left[E(R_M) - R_f \right] + CR \qquad (1)$$

where,

E(R)C is the expected return (discount rate) of the project or firm in country C

R_f is the risk free rate (usually the yield of U.S. T-Bond with a duration similar to that of the project)

$\beta_{B,M}$ is the beta of a similar investment B in a developed country (usually the U.S.)

$E(R_M)$ is the expected return on the market portfolio (usually the S&P500

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1. I am indebted to Maximiliano González for helpful comments.

or a worldwide stock market index such as the Morgan Stanley Composite Index or MSCI)
CR is a country risk premium (usually the spread of a long-term T-Bond issued by the relevant country in US$ over a long-term U.S. T-Bond[2])

It is worth reminding that one of the most important assumptions of the CAPM is that investors are fully diversified meaning that they are able to diversify at negligible cost all the intrinsic risks of their investments, so that only those risks that cannot be diversified away must be accounted for in the discount rate. These non-diversifiable risks are known as systematic since they are correlated with the market portfolio.

There are many other variants to this well-known approach. What they all have in common is that the discount rate is estimated using the CAPM as the base model and the resulting expected return is adjusted with a measure of country risk. Some common adjustments follow:

- An additional risk premium is added to or subtracted from the discount rate resulting from the model described above. The magnitude of this additional premium is often quite subjective and depends on the country where the project takes place, or
- The relative volatility of the stock market index of the emerging country is factored in, or
- The country risk premium is added to the market risk premium, or
- The country risk adjustment depends on the proportion of foreign revenues of the firm or project[3].

Besides affecting the discount rate with some measure of country risk, many analysts also modify expected cash flows to reflect country uncertainties. This means that country risk is taken into account twice--in the discount rate and in the projections. However, to what extent this is right? Under what circumstances shall country risk affect only the discount rate, only the cash flows, or both? And whatever the case, how country risk must be quantified?

In principle, incorporating a country risk premium in the discount rate is flawed for several reasons[4]:

First, not all projects and/or companies are equally exposed to country risk in every country. Being mainly political in nature, country risk is likely to affect some business sectors more than others. For instance, regulated firms with a significant impact on the population at large (i.e. utilities) are more prone to politically motivated intervention than others with no sensible social effects (i.e. restaurants).

Second, whenever country risk is quantified as the yield spread between the relevant country government bonds and their "risk-free" equivalent (i.e. US T-Bonds), the risk premium is

2. Both bonds must have similar maturities and cash flow distributions over time. Occasionally, the country risk premium is made equal to the spread of corporate bonds with the same risk rating of the country over long-term US-T Bonds of similar maturity.

3. See Damodaran 1999a & 1999b.

4. For a more detailed exposition of this issue refer to Sabal 2002.

contaminated with the risk of default of the developing country's government. Although there might be some linkage between the probability of default and country risk, this relationship tends to be quite tenuous for most business propositions.

Third, the impact of the country risk premium on the project´s present value is geometrical. That is, the farther away the cash flow the higher the effect of country risk on its present value. However, country risks might evolve differently. For instance, it is plausible that as time goes by the investor develops more abilities to deal with the target country risks, or that government policy at the recipient country becomes friendlier as the benefits of foreign investments learn to be appreciated.

Lastly, the most important critique for incorporating a country risk premium into the discount rate stems from the aforementioned key assumption of the CAPM: that only non-diversifiable (systematic) risk determines the discount rate. If as usual the CAPM is the model being employed, then including a country risk premium (however quantified) into the discount rate presumes that country risk is fully systematic.

Is country risk systematic? This is a difficult question for the simple reason that it is very hard to identify an acceptable proxy for "country risk." Many analysts tackle this problem by using hard currency bonds issued by the relevant government as a stand-in for country risk. Nonetheless, as explained above this procedure is unsound given that these bonds reflect default risk which is an inaccurate measure of country risk.

Others opt for the local stock market index as a proxy. At first glance this looks like a better choice, however in the vast majority of emerging stock markets only a handful of firms are quoted and widely traded, and this privileged group very rarely truly reflects the country's economy. In consequence, the local stock index might work only for those developing economies with the most sophisticated and diversified stock markets (for example Chile, Brazil, Singapore, India, Mexico, and Taiwan).

In conclusion, an acceptable proxy for country risk is generally hard to pinpoint making very difficult to assess how diversifiable country risk might be.

Another even more important complication is that being imbedded in a very specific way into each business there is no practical way to isolate country risk, and while it is true that country risk is usually damaging it might turn out to be beneficial. For instance, the tariffs of a water utility could be kept extremely low in times of social unrest harming the firm's profits but low subsidized energy prices could yield abnormally high returns to certain industries.

Another case in point might be that of a firm with simultaneous operations in several countries. There must be a different country risk adjustment for investment projects in each country? What should be the country risk premium for the corporation as a whole? The Modified International CAPM explained below offers a practical solution to this problem.

Finally, even if there were a right proxy for country risk a manner must be found to incorporate it into the CAPM in consistency with the fundamentals of the model (not an easy challenge).

There is however one instance in which country risk can be correctly appraised and incorporated into the discount rate. This is the case of emerging market firms whose shares in the form of American or Global Depositary Receipts (ADRs and GDRs) or other similar vehicles are actively traded in a prime stock market. Since, these companies' stock betas can be computed directly from their historical returns they will inevitably reflect all systematic risks (including the systematic component of country risks)[5].

In short, with the exception of this select group of companies, it is not known how to correctly incorporate the right measure of systematic country risk into a CAPM discount rate. Hence, there is no way to have an acceptable discount rate for the great majority of investments in emerging markets.

3. Emerging Market Discount Rates

In practice, a number of alternative discount rates must be employed, all of them inaccurate. Up to this point there are two obvious ones:

- The CAPM discount rate with no country risk at all, meaning the equivalent "developed country rate", and
- The CAPM rate plus a country risk premium. That is, the "traditional country risk premium rate"

For the sake of illustration in this paper two supplementary rates are presented that, together with the ones previously mentioned, will exemplify the practical approach to evaluate country risk that is proposed further on. Of course, analysts are free to employ their own rates.

First, the Modified International CAPM (MICAPM)[6] is introduced:

3.1. Modified International CAPM

This model permits the estimation of the discount rate for projects or firms with operations in different countries. The MICAPM discount rate is computed as[7]:

$$E(R) = R_f + \beta_w [E(R_M) - R_f] \qquad (2)$$

This expression very much resembles the CAPM. The only difference is that beta is "weighted" (β_w) as follows:

5. Beware that these betas will be useful only for evaluating investments affecting the whole corporation. For those projects focused in a different geographical setting, beta must be adjusted accordingly. Refer to the Modified International CAPM below.

6. Refer to Sabal 2002.

7. An approach along the same lines has been proposed by Damodaran 2003.

$$\beta_w = \sum_{i=1}^{n} \alpha_i \cdot \beta_{B,i} \quad (3)$$

$$\sum_{i=1}^{n} \alpha_i = 1 \quad (4)$$

where,

$\beta_{B,i}$ stands for the beta of a similar investment in country i

α_i is the net weight in the firm's overall operating cash flows of the portion of cash flows associated with country i

$\beta_{B,i}$ is computed as:

$$\beta_{B,i} = \beta_{B,M} \cdot \beta_{i,M} \quad (5)$$

where,

$\beta_{B,M}$ is the beta of a similar business in a developed country with respect to a market proxy (i.e. S&P 500)

$\beta_{i,M}$ is the beta of the relevant country stock market index with respect to the market proxy

The other approach is the "Systematic Country Risk Modulator" (SCRM).

3.2. Systematic Country Risk Modulator

This model allows for a correction of expected return based on country risk very much along the lines of the traditional country risk premium method. However, the term added to the CAPM formula attempts to modulate country risk by its systematic component.

The formula is:

$$E(R) = R_f + \beta_{B,M}\left[E(R_M) - R_f\right] + \lambda CR \quad (6)$$

where,

CR is a proxy for the country risk premium, say the yield spread between government bonds

λ is the square of the sample correlation coefficient between the historical returns of the local stock market index and the market proxy index.
This parameter can be interpreted as the proportion of total variability of the returns of the local stock market index that can be explained by the returns of the proxy market index.

$$\lambda = \left(\beta_{i,M}\right)^2 \cdot \left[\frac{\sigma_M}{\sigma_i}\right]^2 \quad (7)$$

where,

$\beta_{i,M}$ is the beta of the local stock market index with respect to the market proxy

σ_M is the standard deviation of the market proxy returns

σ_i is the standard deviation of the local index returns

As many others that may be proposed, these two discount rates are far from perfect. To start with, as explained before the country risk adjustments in both methods are not consistent with the theoretical fundamentals of the CAPM formula.

In addition, it was mentioned that any beta based on local returns tends to be imprecise in most emerging markets. Still MICAPM relies on the accuracy of the local stock market betas with respect to the market proxy and, similarly the SCRM is pretty much dependent on the extent to which the local stock market mirrors the country's economy.

4. Country Risk and Cash Flows

It is clear that in the vast majority of situations there is not a practical manner to assess to what extent country risk might affect a CAPM determined discount rate. Nevertheless, one thing is known: all risks be they diversifiable or not affect cash flows. Hence, being no conceptually different from any other risks country risks will also fully impact projected cash flows.

What this paper proposes is to appraise country risk mainly through its impact on forecasted cash flows, leaving its possible effect on the discount rate as a secondary consideration. The main emphasis is on building a model where all relevant variables and risks are adequately integrated. Then a Monte Carlo simulation is performed in order to obtain a reasonable probability distribution for the present values of the firm or project.

Once the simulation results are obtained, the discount rates selected by the analyst together with their corresponding expected present values are contrasted with the simulation's probability distribution in order to make an educated decision.

Let us demonstrate with a simple example:

Publihouse is a non-publicly quoted publishing company doing business in an emerging market. The Board of Directors has held preliminary conversations with a multinational who might be interested in acquiring 30% of the firm. A consultant has been hired in order to get a better sense of the company's value.

The analysis takes place in four steps.

Step 1: Information Gathering

After a number of sessions management and consultant reached the following conclusions:

- Cash flows will be projected for a 10 year horizon with a terminal value
- The terminal value will be equivalent to a no-growing perpetuity
- Three base case scenarios will be established: expected, optimistic and pessimistic

From the partners' experience the key variables, meaning those having a larger impact on firm value, are:

- Average annual income growth
- Average annual variable cost growth
- Average annual fixed cost growth
- The perpetuity's growth rate
- The foreign exchange rate (Pesos/US$) for each year within the horizon (XR)
- The local inflation rate for each year of the horizon (CPI)

The agreed upon percentage values for these variables were:

	Expected	Optimistic	Pessimistic
Average Annual Income Growth	3.61	7.96	0
Average Annual Variable Cost Growth	3.30	6.59	0
Average Annual Fixed Cost Growth	2.39	0	7.00
Growth Rate of the Perpetuity	1.00	3.00	0

The expected values for the other two variables follow:

Year	1	2	3	4	5	6	7	8	9	10
XR	4850	5650	6400	8000	10000	11200	12800	14500	16000	17500
CPI	19.77	23.10	34.93	22.00	18.00	15.00	10.00	8.00	8.00	8.00

The corresponding values for the pessimistic scenario are:

Year	1	2	3	4	5	6	7	8	9	10
XR	5100	5900	6700	8300	10300	11500	13100	14600	16100	17600
CPI	24.20	28.00	60.80	24.00	20.00	17.00	12.00	9.00	9.00	9.00

And for the optimistic scenario:

Year	1	2	3	4	5	6	7	8	9	10
XR	4600	5400	6100	7700	9700	10900	12500	14400	15900	17400
CPI	15.10	18.00	20.70	17.00	13.00	10.00	6.00	7.00	7.00	7.00

Step 2: Setting Up the Distributions

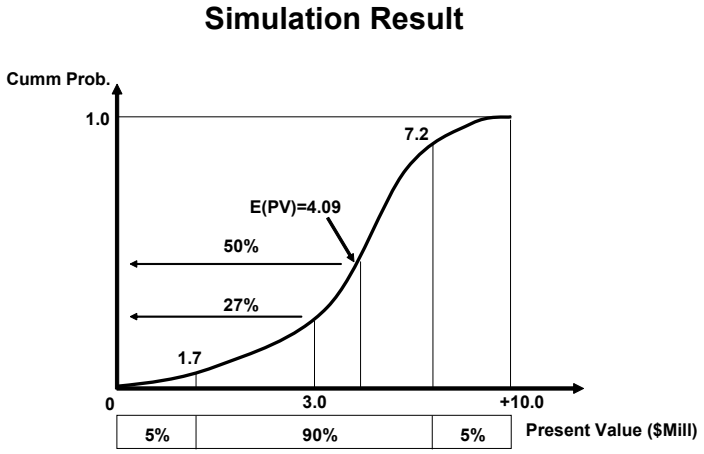
All six variables were assigned triangular distributions defined by the three values for each scenario. The exchange rate and inflation variables were correlated in the same way across time. The correlation coefficient was assumed to be 0.9 for consecutive years, 0.8 for years separated by two years and so on, according to the following table:

Years in Between	1	2	3	4	5	6	7	8	9
Correlation Coefficient	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1

Step 3: Running the Simulation

Five thousand runs were performed using the software @RISK. Cash flows were discounted using the CAPM rate with no country risk at all (the equivalent "developed country rate") that in this case was 9.2%. This serves as the "base case".

The resulting cumulative distribution of present values (under the agreed upon assumptions) is shown in Graph 1:



Graph 1

From Graph 1 it can be concluded that:

- The expected present value of *Publihouse* is $4.09 Million. This implies that there is a 50% probability that the company will be worth less and a 50% probability that it will be worth more
- There is a 27% probability that the company is worth less than $3 Million
- There is a 90% probability that the firm's value falls between $1.7 Million and $7.2 Million

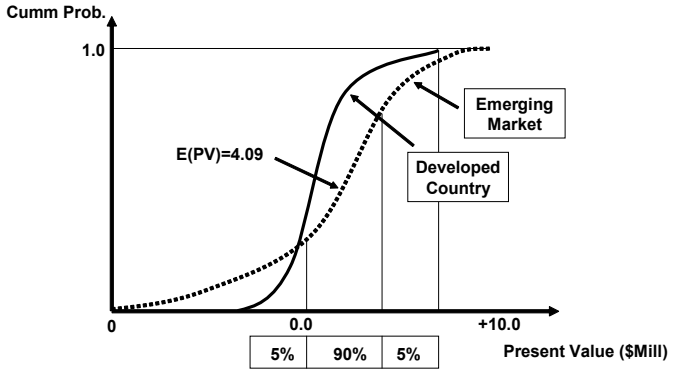
Notice that the ranges are quite wide. This is to be expected in emerging markets where there is considerable uncertainty about future cash flows.

Contrast with a Developed Country

If Publihouse had the same expected values for the key variables but were established instead in a developed country, the range around the expected values would have been narrower and there would be much more certainty about the true value of the company.

In Graph 2, an imaginary present value distribution for a "developed country Publihouse" is placed over the original emerging market distribution.

Developed vs Emerging Market Results



Graph 2

Observe that the expected present value for the firm remains the same. The only difference is that there is much more certainty around this present value. In other words, it can be stated that the range of values about the mean is narrower.

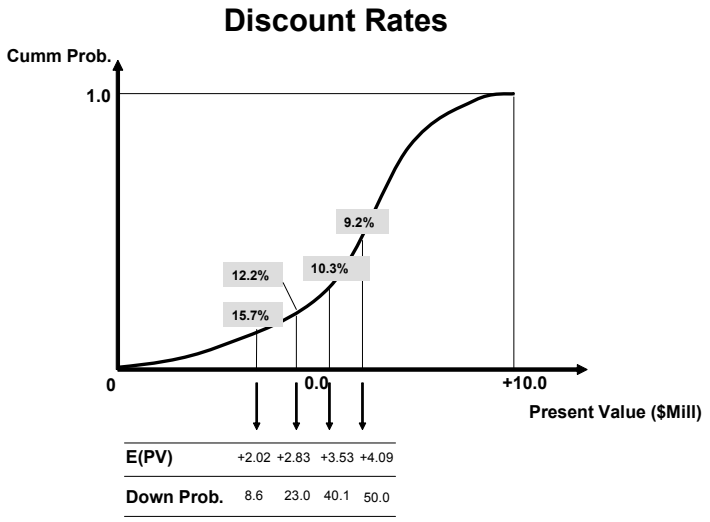
In fact, the main difference between investing in emerging markets as opposed to developed markets is that emerging markets tend to be more uncertain. And this additional uncertainty is not necessarily systematic. On the contrary, stemming mainly from political and social issues most of the risk in emerging market investments is likely to be diversifiable. This is why, the best approach to assess it is through its effect on cash flows.

Step 4: Reaching a Decision

Let us now bring the other discount rates into the analysis. After the corresponding computations their values for *Publihouse* were:

CAPM + Country Risk Premium	15.7%
MICAPM	12.2%
SCRM	10.3%

Contrasting the present values corresponding to these discount rates with the original probability distribution, the following results are obtained:



Graph 3

Notice that anyone of the selected discount rates could have been used to set up the base case. Obviously, whichever the base case rate there will be a 50% probability that the company will be worth less and a 50% probability that it will be worth more than the corresponding expected present value. In other words, there will be a different cumulative distribution function for each selected discount rate.

However, in order to make a more meaningful comparison it is preferable to use just one cumulative distribution function (the one corresponding to the selected base case rate) and then contrasting the expected present values for the other rates with this distribution.

It was thought appropriate to choose the discount rate without country risk as the base case rate because in this example it is expected for country risk to carry a very negligible systematic component, and the purpose is to assess the impact of different treatments of country risk on value. Naturally, the analyst is free to choose whatever base case rate he feels more appropriate for the case under analysis.

From Graph 3 it can be concluded that:

- If country risk does not have any systematic component the discount rate is 9.2% and expected present value is $4.09 Million
- When the SCRM is used the discount rate rises to 10.3% and E(PV) descends to $3.53 Million. Contrasting with the original probability distribution there is a 40.1% probability that the firm will be worth even less
- The MICAPM discount rate is 12.2% yielding an E(PV) of $2.83 Million. The probability of smaller values is 23%
- If the computation is done with the traditional country risk premium, E(PV) is a $2.02 Million and the probability of an even lower value is 8.6%

What can be finally concluded from this analysis? Probably that the company is worth between $3 million and $4 million and that any negotiation on the basis of this range will be a fair deal for the stockholders.

It is very important to be aware that there is no such thing as a unique value for a firm, and that this is even more definite in highly volatile emerging markets. The best an investor in emerging markets can do is to make a well educated decision as to a reasonable price range. The higher the price, the higher the probability that the true value be lower.

5. Conclusions

In most emerging market valuations a risk adjustment is accomplished by adding a spread called the "country risk premium" to the discount rate for an equivalent investment in a developed market. Besides, some analysts also modify expected cash flows to reflect country uncertainties. This means that country risk is taken into account twice--in the discount rate and in the projections.

In principle, incorporating a country risk premium in the discount rate is flawed for several reasons: a) not all projects and/or companies are equally exposed to country risk in every country; b) usually the risk premium is simplistically equated to the risk of default of the developing country government; c) the impact of country risk over time is not necessarily geometrical and; d) when incorporating a country risk premium the implicit assumption is made that country risk is fully systematic.

Furthermore, not only it is extremely difficult to gauge to what extent country risk is or not diversifiable, but also if the discount rate is going to be affected, a manner must be found to modify the CAPM maintaining consistency with the fundamentals of the model.

However, there is no need to focus only on the discount rate. There is no doubt that all risks be they diversifiable or not affect cash flows. Hence, being not conceptually different from any other risks, country risks will also fully impact projected cash flows. This paper proposes to appraise country risk mainly through its impact on projected cash flows, leaving its possible effect on the discount rate as a secondary consideration.

The main emphasis is on building a model where all relevant variables and risks are adequately integrated. Then a Monte Carlo simulation is performed to obtain a reasonable probability distribution for the present values of the firm or project. Finally, the discount rates selected by the analyst (however inaccurate) together with their corresponding expected present values can be contrasted with the simulation's results in order to make an educated decision.

The bottom line is that there is no such thing as a unique value for a firm, and that this statement is even stronger in highly volatile emerging markets. The best an investor in these markets can do is to make a well-founded decision as to a reasonable price range.

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Las adquisiciones parciales como fórmula de inversión exterior: tipología e implicaciones*

ÁREA: 2
TIPO: Teoría

Partial Acquisitions as Foreign Entry Mode: A Tipology and its Implication
As aquisições parciais como fórmula de investimento externo: tipologia e implicações

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El objetivo de este trabajo reside en reflexionar sobre la utilidad de las adquisiciones parciales como fórmula de implantación internacional, identificando los rasgos distintivos que las convierten en un modo de entrada diferenciado respecto a otras fórmulas más frecuentemente analizadas en la literatura como por ejemplo, la creación de empresas conjuntas, el establecimiento de filiales de plena propiedad o la realización de adquisiciones totales. En concreto, se presenta una tipología de adquisiciones parciales y se establecen pautas acerca de su utilización en diferentes escenarios internacionales.

This paper explores the role of partial acquisitions (Pas) as entry mode in foreign markets. The particular features of this entry mode are analyzed in order to differentiate it from other entry modes deeply analyzed in the literature, as joint ventures, total acquisitions, or wholly owned subsidiaries. A typology of partial acquisitions is developed and it is analyzed how de foreign direct investment's features influence the use of each kind of PA.

O objectivo deste trabalho consiste na reflexão sobre a utilidade das aquisições parciais como fórmula de implantação internacional, identificando os traços distintivos que as transformam num modo de entrada diferenciado relativamente a outras fórmulas analisadas com mais frequência na literatura, como por exemplo a criação de empresas conjuntas, o estabelecimento de filiais de plena propriedade ou a realização de aquisições totais. Em concreto, apresenta-se uma tipologia de aquisições parciais e estabelecem-se pautas acerca da sua utilização em diferentes cenários internacionais.

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1. Introducción

La realización de inversiones directas como fórmula de implantación en un mercado extranjero y la elección de la fórmula a través de la cual materializar tales inversiones constituye un tema clásico de estudio en el campo de la Gestión Internacional, resultando prolija la literatura que aborda tal elección y diversas las perspectivas teóricas empleadas para ello[1].

Algunos modos de inversión en el país receptor permiten a la empresa inversora tomar un primer contacto con aquél sin necesidad de incurrir en un excesivo compromiso de recursos —las denominadas *foothold entry strategies* en términos de Meyer y Tran (2006). La implantación en un mercado receptor mediante una estrategia de este tipo proporciona a la empresa una plataforma que favorece la posterior ampliación de la inversión en caso de que el proyecto evolucione de forma favorable, al tiempo que goza de la flexibilidad necesaria para revocar su decisión en caso contrario. Dicha flexibilidad o capacidad de reacción ante potenciales cambios del entorno puede constituir una fuente de ventaja competitiva para la empresa inversora, ventaja que resulta particularmente relevante en entornos inestables.

La implementación de una *foothold strategy* se puede articular fundamentalmente a través de dos métodos: la creación de empresas conjuntas (ECs) y la realización de adquisiciones parciales (APs) o empresas conjuntas por adquisición. La creación de una empresa conjunta requiere el desarrollo de una alianza estratégica o acuerdo de cooperación con (al menos) una empresa socio con la que se crea una nueva empresa en el mercado receptor a la que ambos socios transfieren parte de sus recursos al objeto de que la entidad de nueva creación pueda desarrollar su actividad en el mercado de destino. Tal y como señalan Kogut (1991) y Kogut y Kulatilaka (1994), la creación de una empresa conjunta constituye una plataforma desde la que la empresa puede materializar posteriores inversiones. De igual forma, la realización de una adquisición parcial también puede constituir un primer paso en el proyecto inversor de una empresa, la cual, a partir de tal posición inicial, puede optar posteriormente a realizar una nueva adquisición de la empresa objetivo que le proporcione el control total sobre la misma. Tal y como apuntan López-Duarte y García-Canal (2002), la materialización de la inversión a través de una adquisición parcial evita al inversor extranjero la necesidad de pagar íntegramente por los activos y recursos de la empresa objetivo —caso de las adquisiciones totales—; antes al contrario, la adquisición de una parte del capital de la empresa objetivo constituye un primer paso que permite a la empresa inversora protegerse de la asimetría de información existente en todo proceso de adquisición: su posición en el capital de la empresa objetivo proporciona a la empresa inversora la capacidad para acceder a información sobre aquélla no accesible desde el exterior. Tal información le proporciona, a su vez, una posición privilegiada para determinar el valor real de la empresa objetivo y, en su caso, renegociar las condiciones en las que está dispuesta a aumentar su posición en el capital de la misma.

Si bien los estudios que analizan la creación de empresas conjuntas como métodos de implantación internacional son particularmente abundantes, la realización de adquisicio-

1. Una exhaustiva revisión de la literatura al respecto se puede encontrar, al menos en parte, en Brouthers y Hennart (2007).

Palabras clave

Adquisición parcial; Toehold; Inversión directa en el exterior

Key words

Partial acquisition; toehold; foreign direct investment

Palavras-chave

Aquisição parcial; toehold; investimento directo no exterior

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nes parciales constituye una fórmula de implantación internacional que apenas ha recibido atención en la literatura. En términos de Jakobsen y Meyer (2007) constituyen *el modo de entrada ignorado*, siendo los trabajos de Barkema y Vermeulen (1998), López-Duarte y García-Canal (2002), Chen y Hennart (2004), Meyer y Estrin (2006), Meyer y Tran (2006) y Jakobsen y Meyer (2007) algunas excepciones al respecto.

El objetivo del presente trabajo consiste en realizar un análisis de las adquisiciones parciales como modo de implantación internacional, identificando los rasgos que las diferencian de otras fórmulas tradicionalmente consideradas en la literatura, como empresas conjuntas o adquisiciones totales. A tal efecto, se presenta un análisis dirigido a identificar tales rasgos diferenciadores y las implicaciones que para la empresa inversora se derivan de los mismos, así como su posible utilización en diferentes escenarios internacionales.

2. Las adquisiciones parciales como modo de implantación internacional: Rasgos distintivos

La realización de una adquisición como fórmula de materializar una inversión directa en el exterior radica en la toma de control por parte de un inversor extranjero del capital de una empresa localizada en el mercado receptor. Cuando dicho inversor se hace con la totalidad del capital, la adquisición es total; por el contrario, cuando únicamente adquiere una parte del mismo la adquisición se cataloga como parcial (Sudarsanan, 1995). La adquisición de una parte del capital proporciona a la empresa inversora cierto grado de control y capacidad de influencia sobre la gestión de la empresa adquirida (Spencer et al., 1998).
Según se ha recogido en el epígrafe de introducción, empresas conjuntas y adquisiciones parciales constituyen dos fórmulas de entrada en los mercados extranjeros que permiten el desarrollo de una estrategia de implantación no agresiva, en tanto que la exposición al riesgo de la empresa inversora es menor que en caso de utilizar otras fórmulas como la creación de filiales de plena propiedad o la realización de adquisiciones totales. Si bien ambos medios comparten una serie de rasgos distintivos, no son menos las características que los diferencian.

Así, entre los aspectos comunes a ECs y APs se encuentran, además del ya mencionado reducido nivel de inversión inicial y consecuente limitación de la exposición al riesgo, el hecho de que la empresa inversora solo accede de forma parcial a la propiedad y control de la empresa localizada en el mercado receptor, siendo también parcial, en tanto que compartido con (al menos) otra empresa o socio, su derecho a participar en los beneficios derivados de la actividad desarrollada por aquélla. No son éstos rasgos irrelevantes, al punto de que algunos trabajos tienden a considerar la creación de una empresa conjunta y la realización de una adquisición parcial como un mismo modo de entrada. Así, por ejemplo, en un reciente trabajo en el que se analiza un amplio abanico de fórmulas de implantación internacional Brouthers y Hennart (2007) consideran que el rasgo distintivo que permite diferenciar una empresa conjunta de otros modos de implantación internacional radica en el hecho de que los diferentes socios que participan en la misma (aportando recursos para el desarrollo de las actividades) son remunerados mediante una participación en los beneficios que el proyecto genera[2]. Desde esta perspectiva, tanto la creación de una nueva empresa en la que varios socios com-

2. Esta definición de empresa conjunta está en línea con la que se recoge en los trabajos de Hennart (1988).

parten la propiedad, como la realización de una adquisición parcial corresponden a una misma realidad, ya que tanto empresas socio en el caso de nueva creación, como empresa adquirente en el caso de una AP reciben una parte de los beneficios de la empresa localizada en el mercado receptor. De hecho, buena parte de la literatura empírica dirigida a analizar diversos aspectos relacionados con las empresas conjuntas incluye en una misma categoría las ECs de nueva creación y las generadas vía adquisición. Por su parte, Chen y Hennart (2004) analizan el denominado efecto hostage que crea una adquisición parcial, el cual contribuye a reducir de forma importante la asimetría de información (y los costes que para la empresa compradora se derivan de la misma), así como los costes de integración ex post inherentes a un proceso de adquisición. La existencia de tal efecto lleva a los autores a concluir que las adquisiciones parciales constituyen un modo de implantación internacional que proporciona a la empresa inversora ventajas muy similares a las que conlleva la creación de una empresa conjunta.

Adicionalmente, en el caso de procesos de inversión directa en el exterior ambas fórmulas permiten a la empresa extranjera acceder a recursos específicos del mercado receptor que generalmente están en manos de empresas locales y no son susceptibles de ser adquiridos a través del mercado —este último rasgo resulta también común a los procesos de adquisición total —, tal y como apuntan, entre otros, Kogut y Singh (1988), Hennart y Reddy (1997, 2000) y Reuer y Koza (2000).

A pesar de la existencia de estos rasgos comunes, existen una serie de aspectos que diferencian ambas fórmulas. En este sentido, la adquisición de una parte del capital de una empresa ya implantada en el mercado receptor, frente a la creación de una nueva entidad en el mismo, constituye el principal factor diferenciador entre ellas. Así, la constitución de una empresa conjunta implica la transferencia por parte de los socios implicados de una parte de sus recursos a la nueva empresa. En concreto, cada uno de los socios aporta a la nueva entidad únicamente aquellos recursos que son precisos para el desarrollo de la actividad de la misma; por el contrario, cuando una inversión se materializa a través de una adquisición parcial, *la empresa inversora adquiere un porcentaje de todos los recursos de la empresa adquirida, no únicamente de aquellos que considera particularmente valiosos o necesarios para desarrollar su actividad en el mercado receptor* (Barkema y Vermeulen, 1998; López Duarte y García Canal, 2002). Adicionalmente, desarrollar el mercado receptor a partir de una empresa ya localizada en el mismo permite acelerar el proceso de implantación de la empresa inversora en el mercado receptor —al acceder a las infraestructuras y cuota de mercado de la empresa adquirida— e, incluso, mantener la imagen de empresa local frente a extranjera (caso, por ejemplo, de mantener el nombre y la marca de la empresa adquirida).

La presencia de al menos un socio con el que compartir la gestión, el riesgo y la apropiación de beneficios y el hecho de desarrollar el mercado receptor a partir de una empresa ya existente se erigen, por tanto, en los rasgos distintivos de las adquisiciones parciales. Tal combinación de rasgos las convierte en un modo de entrada híbrido entre empresas conjuntas y adquisiciones totales, pero diferenciado respecto a ambos (López-Duarte y García-Canal, 2002; Chen y Hennart, 2004; Jakobsen y Meyer, 2007).

En la categoría de adquisiciones parciales, tiene cabida, no obstante, una amplia variedad de fórmulas de inversión que se diferencian en función del porcentaje de capital de la empresa objetivo adquirido por

la inversora, el número de empresas adquirentes que se implican en un mismo proceso, las características de el/los vendedores o los objetivos perseguidos por la empresa inversora respecto a la estabilidad de porcentaje adquirido. Así, a partir de los trabajos de López Duarte y García-Canal (2002), Meyer y Tran (2006) y Jacobsen y Meyer (2007) —cada uno de los cuales aborda de forma aislada alguno de los aspectos mencionados— hemos procedido a identificar una tipología de adquisiciones parciales y sus posibles implicaciones estratégicas que se recoge en los siguientes párrafos.

3. Tipología de adquisiciones parciales

3.1. En función del volumen de capital adquirido

Una primera clasificación puede llevarse a cabo a partir del porcentaje de capital que la empresa inversora adquiere en la empresa objetivo. Desde un punto de vista teórico (Lindqvist, 2004a; 2004b), una adquisición parcial es cualquier participación superior al 0 e inferior al 100% del capital de la empresa objetivo. Si bien la aproximación resulta particularmente sencilla —tan sólo es preciso conocer el volumen de capital adquirido en el proceso—, no así la clasificación de los procesos de inversión. Así, en primer lugar, existe un consenso en la literatura al respecto al clasificar como adquisiciones totales aquéllas en las que la adquirente toma un volumen superior al 95% del capital de la objetivo[3]. De igual forma, las adquisiciones que implican la toma de un volumen inferior al 10% de dicho capital tienen a ser calificadas bien como inversiones meramente financieras, bien como *toeholds* —término al que nos referiremos en un epígrafe posterior. El amplio abanico de opciones intermedias supone una dificultad de clasificación, ya que los derechos de control sobre la gestión de la empresa adquirida que obtiene la adquirente dependen no sólo del porcentaje que adquiere, sino también de cómo se distribuye el resto del capital no adquirido, así como de la existencia de reglas de mayorías cualificadas o títulos de propiedad con diferentes derechos. Algunos autores (fundamentalmente en el marco de la literatura dirigida a analizar las ECs[4]) distinguen entre participaciones dominantes —la empresa inversora consigue el control efectivo de la empresa local, al margen del porcentaje de capital que tome en el proceso—, frente a participaciones no dominantes. Este criterio atiende únicamente a la capacidad de control, dejando al margen el derecho a la participación en los beneficios. Un segundo criterio, generalmente más utilizado por ser más simple la obtención de la información, atiende únicamente al porcentaje de capital adquirido, dejando al margen los derechos de gestión que participaciones minoritarias pueden otorgar. Así, se distingue entre participaciones mayoritarias (superiores al 50% del capital) y minoritarias (inferiores a dicho umbral, si bien superiores al 10% apuntado anteriormente). La literatura al respecto apunta al hecho de que las primeras tienden a presentar características más similares a las de las adquisiciones totales que las segundas (Lindqvist, 2004a; 2004b).

En este sentido, cabe esperar una mayor tendencia a la utilización de adquisiciones parciales mayoritarias para acceder a mercados con un menor grado de desarrollo económico y/o que presenten un elevado grado de distancia cultural respecto al país de la empresa inversora. En estos contextos, las adquisiciones mayoritarias, en

3. Véanse, a título de ejemplo, Gomes-Caseres (1989) y Hennart y Reddy (1997).

4. Véase, por ejemplo, Killing (1983), Beamish (1988) y Blodgett (1992).

la medida en que garantizan a la empresa inversora el control sobre la gestión de la empresa adquirida, permiten evitar conflictos de intereses y problemas de integración con socios cuyas rutinas y pautas de comportamiento resultan muy diferentes. Una adquisición parcial que no permita controlar la empresa objetivo dificulta el proceso de toma de decisiones en entornos en los que existen fuertes diferencias de identidad entre los socios.

3.2. En función del número de empresas adquirentes

Tradicionalmente, la implantación en un mercado extranjero vía adquisición se ha analizado desde la perspectiva de una única empresa inversora. Existen, no obstante, procesos en los que son varias empresas las que conjuntamente realizan la adquisición de una empresa local realizando lo que se ha denominado en la literatura una "adquisición compartida" (López-Duarte y García-Canal, 2002) o empresa conjunta previa a la adquisición (Jakobsen y Meyer, 2007). Así, en una adquisición tradicional, sea ésta total o parcial, se ven implicadas únicamente dos empresas: la adquirente y la objetivo o adquirida. Por el contrario, en un proceso de adquisición compartida varias empresas toman conjuntamente una participación en el capital de una tercera empresa localizada en el mercado objetivo, pudiendo resultar dicha participación conjunta total —el grupo de adquirentes se hace con el 100% del capital de la empresa objetivo— o parcial —dicho grupo adquiere conjuntamente únicamente una parte del capital de la empresa objetivo. La realización de una adquisición compartida requiere, por tanto, la realización de dos procesos consecutivos de diferente naturaleza: en primer lugar, debe desarrollarse un acuerdo de cooperación entre las diferentes empresas adquirentes en el que se pactan las condiciones en las que se llevará a cabo la adquisición y, en segundo lugar, se materializa la adquisición propiamente dicha de la empresa objetivo. Dicho acuerdo de cooperación suele materializarse en la creación de una empresa conjunta participada por las diferentes adquirentes, siendo dicha entidad compartida la que posteriormente realiza la adquisición.

Esta fórmula de adquisición compartida tiende a ser utilizada en los procesos de adquisición de empresas que son privatizadas, al objeto de dar cabida a socios locales cuya participación en el proceso constituye con frecuencia un requisito explícitamente recogido en el pliego de condiciones de la privatización y/o cuya participación es requerida por los restantes inversores al objeto de que aporten contacto y conocimientos sobre el mercado receptor. De este modo, las adquisiciones compartidas se convierten en la vía más utilizada para acceder a sectores regulados que vienen siendo objeto de una creciente liberalización, de forma que muchos de ellos han sido objeto de privatizaciones y desregulaciones en los últimos años. Asimismo, las adquisiciones compartidas se convierten en una fórmula muy apropiada para materializar las inversiones en economías emergentes que presenten un elevado crecimiento o potencial de crecimiento pero que carecen de un marco institucional equiparable al de los países más desarrollados económicamente. En este contexto, las capacidades necesarias para competir en el mercado receptor suelen ser contextuales o específicas del propio mercado local, lo que tiende a hacer necesaria la participación de un socio local que aporte las mismas.

De igual modo, las adquisiciones compartidas tenderán a ser utilizadas en países que presenten un mayor riesgo político. Así, la elevada volatilidad de estos mercados —que afecta a cambios en las instituciones, en la estructura industrial de los

diferentes sectores e, incluso, a las variables macroeconómicas de la nación — incrementa el grado de exposición al riesgo de la empresa inversora, lo que, conduce a la necesidad de compartir los grandes proyectos de inversión con otros socios, particularmente locales.

3.3. En función del vendedor

Tradicionalmente, en la literatura sobre elección de modos de entrada en nuevos mercados se analiza tal elección desde la perspectiva única del inversor extranjero, obviando algunos aspectos, tales como las características u objetivos perseguidos por el propietario inicial de las empresas locales que son vendidas, los cuales pueden influir de forma substancial en la fórmula finalmente elegida. Así, el tipo de propietario de la empresa local objeto de adquisición puede modificar substancialmente las características de la misma. Una primera distinción al respecto radica en el número de propietarios, ya que cabe diferenciar empresas locales que son propiedad de una única entidad, sea ésta familia, estado o grupo industrial, de aquellas empresas cuya propiedad está dispersa entre un elevado número de inversores, distinguiéndose en este último caso, empresas que cotizan en sus respectivos mercados de valores locales, frente a empresas que no lo hacen.

En el primer caso, la adquisición parcial debe ser entendida no sólo como un proyecto de inversión por parte de la adquirente, sino también como un proyecto de desinversión parcial por parte del propietario de la empresa objetivo, el cual puede preferir esta fórmula (frente a la desinversión o venta total) al objeto de apropiarse de una parte del incremento de valor que se derive del proceso de inversión e implicación en la gestión de la sociedad por parte del inversor extranjero.

En este contexto de propietario único, cabe distinguir entre empresas que son propiedad del estado y empresas que son privadas, ya que en el primer caso la adquisición se lleva a cabo vía procesos de privatización que, tal y como apunta Estrin (2002), pueden desarrollarse siguiendo diferentes modelos como la venta directa al inversor extranjero, la transferencia de la propiedad (o de parte de la misma) a los empleados de la empresa o la utilización de programas *voucher* que facilitan la distribución de la propiedad entre amplios segmentos de la población[5]. En caso de que la venta se realice directamente por el gobierno o la agencia de privatización, la misma suele realizarse a través de un proceso de oferta competitiva. El hecho de que la empresa sea propiedad del estado o de los propios empleados puede introducir retos adicionales al inversor extranjero, ya que estos propietarios suelen plantearse objetivos relacionados con la transferencia de la empresa que van más allá de la mera maximización del valor que perciben por la participación que venden; antes al contrario, objetivos tales como la realización de inversiones en la propia empresa por parte del potencial adquirente y la protección de los puestos de trabajo tienden a erigirse en prioritarios para estos vendedores, particularmente en las economías susceptibles de ser calificadas como emergentes (Meyer y Jakobsen, 2007). En términos de Meyer (2002), la adquisición parcial es la fórmula que permite alinear los objetivos del inversor extranjero y el gobierno local en un proceso de privatización.
En tales circunstancias, la elección del modo de entrada no constituye una decisión unilate-

5. Estos programas implican la distribución por parte del estado de certificados o cupones entre determinados segmentos de población; tales cupones son posteriormente canjeables por acciones de la compañía privatizada o por participaciones en intermediarios financieros. En la mayor parte de los casos, estos cupones pueden ser libremente transaccionados por sus propietarios.

ral del inversor extranjero, sino el resultado de una negociación entre las partes implicadas, en la cual la venta sólo parcial de la entidad privatizada constituye una forma de garantizar la influencia y salvaguardar los intereses de la parte vendedora. En este contexto suele ser habitual que en las propias condiciones del pliego de privatización se explicite cuál es la proporción de capital de la empresa susceptible de ser vendido, qué parte del mismo puede ser adquirido por inversores extranjeros, qué obligaciones contractuales asumen dichos inversores en relación con la realización de inversiones, mantenimiento de puestos de trabajo, si se mantiene, en su caso, acción de oro por parte del estado vendedor, etc. Adicionalmente, suele ser frecuente que el estado o agencia de privatización favorezca explícita o implícitamente la adjudicación a consorcios o grupos de empresas participados por empresas locales. Todo ello limita la posibilidad real de elección de la empresa inversora respecto a la fórmula de implantación en el mercado receptor.

4. En función de la estabilidad del capital adquirido

Un factor que permite identificar distintos tipos de APs es no sólo el porcentaje de capital adquirido en un determinado momento por la empresa inversora, sino el interés de ésta en mantener o modificar dicha participación a lo largo del tiempo. Ello nos permite diferenciar entre lo que podemos calificar como adquisiciones puntuales y adquisiciones escalonadas o en etapas (Meyer y Estrin, 2006). En el primer caso la empresa inversora adquiere un porcentaje de capital de la empresa objetivo y mantiene tal posición parcial en el futuro. Por el contrario, en el segundo caso se produce un cambio gradual en la propiedad de la empresa objetivo; a saber, el inversor extranjero toma una primera participación parcial en el capital de dicha empresa con la intención de incrementar tal participación en un futuro más o menos inmediato. La adquisición de una participación parcial constituye, por tanto, tan sólo el comienzo de un proceso cuyo objetivo final es lograr la totalidad (o la mayoría) de la propiedad y el control de la empresa objetivo.

La adquisición de una primera participación minoritaria en la empresa objetivo, realizada a través del mercado y previa al anuncio público por parte de la empresa inversora de su interés en tomar el control de la empresa objetivo es conocida en la literatura financiera como la realización de un *toehold*, constituyendo un fenómeno ampliamente analizado en el ámbito financiero. Así, trabajos clásicos como los de Grossman y Hart (1980), Shleifer y Vishny (1986) o algunos más recientes como el de Goldman y Qian (2005) han analizado las ventajas y costes que se derivan de la utilización de esta fórmula para la empresa inversora —si bien cabe mencionar que ninguno de ellos se enmarca en el ámbito de las inversiones internacionales. En primer lugar, la adquisición de tal participación minoritaria a través del mercado permite a la empresa adquirente hacerse con un porcentaje de los títulos de propiedad de la empresa adquirida a un precio inferior al precio al que se materialice la oferta de adquisición —el denominado *toehold premium* que recoge la variación en el precio de las acciones de la empresa objetivo antes y después de que el anuncio de la adquisición se haga público. Adicionalmente, la posesión de un *toehold* proporciona a la empresa un mayor poder de negociación frente a potenciales rivales que también deseen hacerse con el control de la empresa objetivo, pero carezcan de tal participación, llegando a impedir, incluso, la realización de ofertas rivales por aquélla. Entre los efectos negativos de la toma de tal participación minoritaria se encontrarían la potencial revelación al mercado por parte de la

empresa adquirente de información privada relativa a la valoración que realiza de la empresa objetivo, el incremento en el precio de mercado de los títulos de propiedad de esta última (hecho que redunda en un encarecimiento de la adquisición final) —la escalada en el precio de lo títulos suele ser mayor cuando el mercado anticipa batallas por el control de la empresa objetivo—, y la potencial reacción hostil del equipo gestor de la empresa objetivo en caso de detectar la toma de participación. Si bien los diferentes modelos teóricos desarrollados en estos trabajos apuntan al hecho de que la propiedad de un *toehold* incrementa la probabilidad de la empresa adquirente de desarrollar con éxito un proceso de adquisición total, e incluso apuntan al hecho de que cuanto mayor sea tal *toehold* mayor resulta dicha probabilidad, la evidencia empírica recogida en estos y otros trabajos apunta al hecho de que una gran parte de las adquisiciones se materializan sin que la empresa adquirente anticipe tal participación en la empresa objetivo.

Si bien la adquisición de participaciones minoritarias (inferiores al 10% del capital de la empresa objetivo) tienden a ser consideradas en el campo de la Gestión Internacional como inversiones meramente financieras o inversiones de cartera (*portfolio investments*), la adquisición de un *toehold* puede ser considerada como una inversión directa en tanto que forma parte de un proceso de toma de control sobre la empresa objetivo. En este caso, la participación minoritaria constituye una situación meramente temporal dirigida a evolucionar hacia una fórmula de propiedad que garantice a la empresa inversora el control de la empresa objetivo en un futuro más o menos inmediato. Una vez realizada la adquisición inicial, se producen las adquisiciones posteriores o acumulaciones a través de las cuales la empresa inversora adquiere nuevas participaciones en el capital de la empresa objetivo, completando, así, el proceso de adquisición de la empresa local[6]. La posibilidad de que dicha participación vaya vinculada a un proyecto de cooperación entre las empresas implicadas constituye una tercera realidad al respecto. Así, tal y como se recoge en (Vidal y García Canal, 2003) la toma de una participación minoritaria en el capital del socio resulta un hecho frecuente en el desarrollo de determinadas alianzas internacionales, en particular, aquéllas que surgen de un protocolo de cooperación y presentan, en su origen, un carácter poco definido y no concretado en proyectos ya determinados en el momento de sellar el acuerdo. En este sentido, la participación minoritaria constituiría una prueba de la intención de comportamiento cooperativo por parte de la empresa y de su permanencia en la alianza, erigiéndose en garantía e instrumento que facilita la negociación entre los socios.

Circunscribiéndonos exclusivamente a las *toehold* como primer paso de una IDE escalonada, cabría esperar que las mismas se utilicen como una de las fórmulas para invertir en mercados que muestran una mayor distancia cultural respecto a la empresa inversora dado que permiten a ésta acceder a información de la empresa objetivo —y reducir, así, la asimetría de información existente entre ambas— antes de implicarse en un adquisición total o mayoritaria que implique un mayor compromiso de recursos. Por otro lado, también cabe esperar que esta modalidad de adquisición parcial, en la medida en que constituye una vía más rápida y menos arriesgada que otras fórmulas de inversión directa para acceder inicialmente al capital de la empresa objetivo, se utilice para acceder a mercados que experimentan cambios en

6. Si bien desde el punto de vista teórico resulta relativamente sencillo diferenciar un toehold de una inversión meramente financiera, no lo es tanto en la realidad, ya que el incremento de la participación en el capital de la empresa local puede estar previsto de antemano o puede ser una respuesta ante cambios acontecidos en el entorno o en los objetivos perseguidos por la propia empresa inversora.

su *status quo* competitivo y en los que es necesario posicionarse rápidamente.

Finalmente, señalar que en una serie de trabajos recientes Lindqvist (2004a, 2004b), han analizado desde el punto de vista teórico y empírico la existencia de un segundo tipo de *toeholds*: los denominados *toeholds externos* u *outsider toeholds*. Éstos constituyen, al igual que los anteriores, la toma por parte de una empresa de una participación minoritaria en el capital de una segunda empresa, si bien en este caso el objetivo que persigue tal participación no es constituir una plataforma a partir de la cual incrementar la participación en el capital y el control de la empresa participada, sino beneficiarse del incremento de valor que ésta pueda experimentar ante un proceso de adquisición de una tercera empresa rival de la empresa objetivo. Esta última adquisición puede ser llevada a cabo por la propia empresa inversora o por cualquier otra empresa. La lógica que subyace tras este proceso se basa en el hecho de que en determinadas circunstancias los procesos de adquisición o fusión entre empresas de un sector benefician en mayor medida a empresas rivales que compiten en el mismo sector que a las propias empresas implicadas —existencia de una externalidad positiva derivada del proceso de adquisición.

5. Consideraciones finales

En este trabajo se ha realizado un análisis teórico acerca de la utilidad de las adquisiciones parciales como vía de implantación en los mercados internacionales. En concreto, se han identificado sus características singulares que las diferencian de otras fórmulas de inversión internacional y se ha propuesto una tipología de adquisiciones parciales. Asimismo, para cada una de las categorías de adquisición parcial identificadas se ha llevado a cabo una breve reflexión acerca de sus implicaciones estratégicas y la conveniencia de su utilización en diferentes escenarios internacionales. Se trata, no obstante, de una aproximación preliminar al estudio de esta fórmula de expansión internacional que trataremos de desarrollar en futuros trabajos empíricos, al objeto de obtener evidencias empíricas que nos permitan verificar las predicciones apuntadas en este trabajo.

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R E V I S T A | J O U R N A L | R E V I S T A
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Profitability of Spanish Foreign Direct Investment

AREA: 2
TYPE: Application

Rentabilidad de la inversión española directa en el exterior
Rentabilidade do investimento estrangeiro directo espanhol

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In this paper the focus is on the profitability of the Spanish FDI stocks owned by foreign and domestic firms. The implicit rates of return are estimated and analyzed for two different main components, capital stakes and inter-company loans, over a period spanning from 1993 and 2007, in a systematic comparison with other developed countries and after a discussion of some methodological and statistical issues. The time dynamics of stock and incomes are also previously considered as a base for a better understanding of the great changes that have recently taken place in the position of the Spanish economy in the international investment overview. The main result is a comparative low profitability of the FDI assets and liabilities in Spain which could explain the slowdown of the inward flows in the last years. However, the contrast between the main data source, Eurostat, and domestic data for the firms involved advises us to be very cautious about this conclusion.

El presente artículo se centra en la rentabilidad del stock español de IDE que pertenece a empresas extranjeras o nacionales. Las tasas de devolución implícitas se calculan y se analizan para dos componentes básicos diferentes, participaciones de capital y préstamos interempresariales, a lo largo de un periodo que va desde 1993 a 2007, en comparación sistemática con otros países desarrollados y tras el análisis detallado de algunos problemas de metodología y estadística. La dinámica temporal del stock y los ingresos también se tienen en cuenta como base para comprender mejor los grandes cambios que se han producido recientemente en la posición que la economía española ocupa en el panorama general internacional de inversiones. El resultado principal es una menor rentabilidad comparativa de los activos de IDE y de las responsabilidades en España lo que podría explicar el ralentización de los flujos internos en los últimos años. Sin embargo, el contraste entre la fuente de datos principal (Eurostat) y los datos nacionales de las empresas implicadas invitan a la precaución a la hora de sacar dicha conclusión.

O presente artigo centra-se na rentabilidade dos stocks de IED espanhol detidos por firmas estrangeiras e nacionais. As taxas de retorno implícitas são estimadas e analisadas para dois componentes principais, participações de capital e empréstimos inter-empresas, ao longo de um período que vai de 1993 a 2007, numa comparação sistemática com outros países desenvolvidos e após uma discussão de algumas questões metodológicas e estatísticas. A dinâmica temporal do stock e dos rendimentos é também previamente considerada como base para uma melhor compreensão das grandes mudanças que tiveram recentemente lugar na posição da economia espanhola no panorama de investimento internacional. O principal resultado é uma rentabilidade comparativa baixa dos activos e passivos do IED em Espanha, o que pode explicar o abrandamento dos fluxos de entrada nos últimos anos. No entanto, o contraste entre os dados da fonte principal, o Eurostat, e os dados internos para as firmas envolvidas aconselha-nos a sermos muito cautelosos quanto a esta conclusão.

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1. Introduction

The final years of the last century witnessed a huge change in the position of Spain in international investment regarding Foreign Direct Investment (FDI) flows, as this country transformed from net importer of capital to net exporter. These changes transferred very fast to the Spanish stock of this kind of assets and to the balance of payment by capital incomes that also went from negative to positive in the years of the new century.

The Spanish FDI flows have received frequent attention from the analysts, but the same cannot be said for the stocks, the incomes they generate and the returns involved in them, and those latter two aspects what are precisely the ones focused on in this paper.

In particular, the International Investment Position (IIP) in balance of payments terminology (stocks) and FDI revenue, as well as the interaction between both (the implicit profitability of the investment, in words of the Bank of Spain) are aspects which have scarcely been dealt with in specialist literature, even if their importance is generally assumed. In principle stocks can be expected to help in explaining revenue evolution, and the latter, in turn, may be a determining factor not only in attracting new FDI flows, but also in keeping them inside the host country.

Except for a few cases, the statistical gaps in available information and the widely-varying criteria in stock and revenue calculations, make analysis even more hazardous. Along with inherent problems involved in understanding the aggregate of the figures, it may help to explain the fact that both aspects have had little comment in the literature; except for the United States, where profitability differentials in FDI assets and liabilities (in favour of the former) have caused considerable controversy[1]. In the case of Spain, Banco de España has recently made estimates of implicit profitability on an aggregate plane[2]. Moreover some account, albeit a very superficial one, has been given of the evolution of stocks and income in more general studies on Spanish FDI[3].

As was advanced above, this article deals with the analysis of stocks, income and profitability of FDI for the case of Spain, extending the timescale (1993-2007) making comparisons (eleven Community countries plus the United States), and widening the field of attention to their two main financial instruments, namely, stocks of shares and other forms of stakeholding, and inter-company loans granted to or by direct investors from or to associated enterprises, as well as the revenues and payments for the incomes they generate. For this, the Balance of Payments and International Position of Spain and Eurostat have been used as statistical sources. Likewise, in order to make progress beyond results which are by necessity limited (due to problems in constructing starting data from the balance sheet), a scenario closer to reality is contemplated, for which FDI stocks and income are used, as declared by the selfsame resident and non-resident firms in Spain. This will serve to endorse, as needed, previous findings on the evaluation of the

Key words
FDI, Income, profitability, Spain

Palabras clave
IDE, Rentas, Rentabilidad implícita, España

Palavras-chave
IED, Rendimento, rentabilidade, Espanha

JEL Codes
F200; F300

1. For example, Mataloni,R.J. (2000), Higgins, M., Klitgaard, Th. And Tille, C. (2005), Haussmann, R. and Sturzenegger (2005) and (Heath (2007).

2. See: Banco de España (2007), section 4.2, Evolución de las rentabilidades implícitas de la Posición de Inversión Internacional, pages 93-96 (Evolution of implicit profitabilities of the International Investment Position).

3. See, for example, Fernández-Otheo (2007a).

efficiency of the investment process.

From this first section of the introduction, the paper is organized in the following way: in the second one some statistical and methodological issues are discussed; the level of evolution of stocks and incomes of assets and liabilities by FDI are analyzed in a third while the calculations of implicit profitability are presented in the four, finishing the paper with some conclusion in the fifth and last section.

2. Note on statistical sources

The conceptual framework of the International Investment Position (IIP) of FDI, -or, if preferred, of stocks- was already presented in the 1993 Balance of Payments Manual, (MBP5), by the IMF, who described it in the following terms: "The IIP is a statistical balance sheet showing the ownership of external assets and liabilities of an economy at a particular moment in time. These balances are the result of previous transactions with other countries at current market values (current market prices and exchange rate) and other factors (for example, accounting cancellations or reclassifications) at a particular time" (IMF, 2002, page 3). To sum up, at the year end, the IIP is obtained by adding to the IIP transactions for the previous year the FDI transactions, changes in asset and liability prices, interest rate variations and other adjustments. Net IIP thus reflects the difference between what an economy owns and what it owes in FDI terms.

Obtaining market prices is not at all easy, mainly because many subsidiary companies created by multinationals (EMNs) are not quoted on the stock market, the main reference used hitherto to record price variations in assets and liabilities. This means that the latter IMF recommendation is only half met, according to the availability of information, as can be seen from the replies of Community countries to the European Central Bank (2005) on how the IIP is drawn up. There is relative homogeneity as far as the FDI instruments included are concerned, but none at all in the case of constructing the data: some do it by means of book value or "historical costs" (which normally register the cost of acquisition and accrued profits in the form of reserves), others add the variations in currency rates of exchange in which assets and liabilities are denominated (current values), and others do so in market value (by applying them to previous types of stock market indices or other ways (by questionnaires to firms, for example). In other cases mixed systems are used. Information on how statistical series have been constructed is particularly hard to come by, with no hint as to whether they are updated or not, or from what time… The United States is one of the few countries which provides complete, significant information. It builds up three types of series, but the one broken down into sectors and countries is only offered at historic cost[4]. In Spain, for example, a simulation was recently carried out on the market value of the asset stock (Banco de España, 2007).

Obviously, the most accurate evaluation criterion is the latter, but few countries use it when preparing their balance sheets. To overcome this obstacle, some authors have made simple transformations to pass on to market values, by applying stock market indices to annual

4. On Internet: www.bea.gov.

aggregate figures. Heath (2007) has done it for some OECD countries. Apparently, this exercise provides a truer measurement of assets and liabilities, but is still no more than a mere approximation. The complexity involved in calculating it is clearly shown when we consider what was carried out by the Banco de España (2007, pp.89-92) for FDI abroad. This managed to use more than thirty stock market indices to calculate asset values (and these are broken down between an effect due to price variations and another from the exchange rate. Even then they make the express point that "the result must be considered as a mere indication of the true market value "(p 90). In any case, the year-on-year variations can be considerable, depending on the evolution of stock markets, and this aspect should be borne in mind when interpreting the findings.

Spain usually presents its IIP information at book value, including some modifications in the statistical series on the basis of changes in the FDI instruments which might occur (for example, transferring or reducing the 10% stake in share capital). This means passing from FDI to portfolio investment or the opposite, or a substantial modification in the value of the stake (for example, the loss or increase in value of some particular operation). Thus, the Balance of Payments figures are those sent to Eurostat, where this same criterion also seems to be applied. And, in fact, the search for standardisation has been the key factor in the choice of this body as a statistical source for the analysis which is made in the following sections.

Eurostat is also the nearest source to the UNCTAD stock figures reviewed in their annual reports (*World Investment Report*), where it is explicitly stated that stocks have been constructed by means of the accrued total of flows, that is, by the book value criterion. As can be seen in Table 1, the differences between Eurostat and UNCTAD are minimal in assets and liabilities declared by countries reported in 2000, they are still so in 2006 in the former, and more important in the liabilities, especially for Germany, Austria, Sweden and the United States. In any case it should be borne in mind in order to explain part of these differences that potential revisions of figures have been made at different times. The alternative was the IMF, but in this latter case, we know for certain that countries such as the United States present their figures at market value (in fact, they are identical to those provided by *the Bureau of Economic Analysis* for this same criterion), and quite probably for France and some other country, apart from the fact that in other cases they might be expressed in current values (corrected for the exchange rate).

In book values variations prices in asset and liability are not recorded, but this seems not so essential for observing particular behaviour in FDI in terms of evolution and, even, on the comparative plane, as will be shown later. Indeed, the effects of not valuing assets and liabilities with market criteria are evident: undervaluation in the case of stocks and overvaluation of profitability than when they are made at market values. What is really important is, in fact, not rushing to conclusions and acting with extreme caution when making inter-country comparisons.

With regard to the different time periods chosen here to facilitate the analysis, the following aspects have been taken into account: a) medium or small sized countries (and sometimes the large ones as well) show considerable oscillations in revenue from year to year, so presenting them in aggregate form partly alleviates this problem. b) From 1999 onwards the effects of the euro began to be seen, giving rise to an unprecedented growth in financial assets and liabilities. and c) As pointed out in the

Eurostat explanatory documents, in 1999 the operations carried out through special purpose entities (SPEs) were recorded, according to the IMF[5]. These intermediary operations, which used certain countries as transit stops towards other final destinations also form part of FDI, but are hardly linked to productive systems where SPEs have their headquarters; and unfortunately, they are not usually separated in total figures. Bear in mind that these operations initially come to make up the liabilities stock, and afterwards, the asset stock for the country preparing the balance sheet. Thus, both phases cancel each other out in net terms; and likewise, come to swell the revenues and payments by FDI incomes, and this adds a strain to the valuation of the process in a country where these operations have been important, especially in Holland, Luxembourg and Spain[6].

Table 1: Comparation fo International FDI stocks sources, 2.000-2.006

Country	Eurostat/UNCTAD				Eurostat/FMI	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
	2000		2006		2005	
Austria	6,9	7,0	2,2	26,7	-2,6	10,7
Denmark	-2,7	-2,6	-6,1	-7,6	7,5	5,9
Finland	6,9	7,0	-2,3	-2,0	6,8	10,8
France	6,9	7,0	2,1	1,3	-33,3	-27,2
Germany	-4,2	46,3	-4,6	28,4	4,2	-0,8
Holland	6,9	6,9	4,0	5,1	2,7	6,4
Italy	6,9	0,3	-4,8	-5,6	5,4	7,5
Portugal	8,1	6,9	-6,5	-11,4	4,5	7,2
Spain	6,9	7,0	-5,2	-6,1	5,8	6,4
Sweden	7,3	7,4	-7,3	-15,2	8,7	4,9
United Kingdom	6,9	6,9	-2,5	-8,7	-12,9	-22,8
U.S.A.	7,0	7,0	6,7	19,7	-37,5	-37,8

Sources: Own elaboration from UNCTAD (2006,2007), Eurostat y IMF (Internet, September 2008).

3. International Investment Position, stocks and incomes

The IIP of FDI subdivides into two components: stocks and other capital stakes, and other FDI capital. The latter records the stock of net inter-company debt, that is, related financing between firms belonging to the same group, regardless of their maturity, providing they are not credit organisations[7]. Holding assets and liabilities generates income and payments through FDI income, either through dividends received by the investing firm, by reinves-

5. Denominated in Spain as Entidades Tenedoras de Valores Extranjeros (ETVE).

6. The importance of these operations in the case of Spain can be seen in Fernández-Otheo (2003, 2007a).

7. Related funding between financial institutions does not form part of FDI.

ted profits in the subsidiary company (even though they are not real transactions)[8], and by the interest on the loans (originating in the other FDI capital).

The decision bringing the FDI to adopt the form of loans instead of capital stakes relies on several determinants, but recently the level of corporate fiscal taxes in host and issuing countries has been underlined by analysts. There is some evidence that low-tax recipient countries are very attractive for EMNs, the case of Ireland being a paradigm of this, and also of the negative impact that tax levels exert on flows: a 1% increase in corporation tax leads to a 3.3% FDI reduction according to a recent meta-analysis[9]. But another based on individualised data of forms (Moore and Ruane, 2005), reveals that this same increase means a 0.35 rise in the inter-company loans.

As the final aim of this paper is to find out the profitability of the investment process, it is important to take in account the composition of stocks as it might influence it. In any case, the following section deals first with the analysis of the importance, characteristics, structure and evolution of IIPs and subsequently with that of the revenues that reward such investments.

8. The calculation is made by differences between the total year's profit minus payments in the form of dividends in that year. They are fictitious transactions, according to the balance of payments, since it is assumed, in one case, that the undistributed profits are received in the first place by the direct investor (fictitious income transaction) and immediately reoriented towards the corresponding subsidiaries (fictitious direct investment transaction (Eurostat, 2007, page 9).

9. This analysis was made by Ederveen and de Mooj (2003). The impact of taxation upon issuing and recipient countries on the stock of FDI issued and received, for a fairly large group of OECD countries can be seen in: Egger, Loretz, Pfaffermayr and Winner (2006). More recently, Backus, Henriksen and Storesletten (2007) have shown the duality of findings for the impact of taxation on firms when deciding where to locate their headquarters in the OECD, with the fiscal measure chosen depending on the firms adopting it: effective tax rates (slight relationship) or corporation tax (intense relationship).

3.1. Evolution of FDI Stocks. Assets and Liabilities

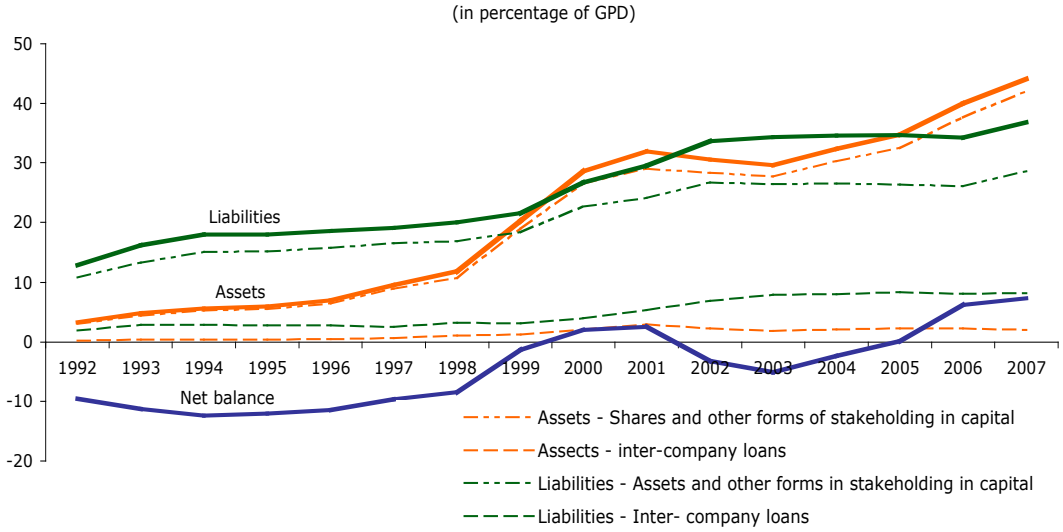
Whereas foreign capital has been present in Spain for more than a century, with phases of intensive growth such as in the period just before and after its entry into the European Union, the significant presence of Spanish firms abroad is a very recent phenomenon and also an outstanding one, due to the firms' rapid incorporation to the international production sphere. When FDI stocks are considered together, Spain's financial integration into the international community has shown a drastic change in just fifteen years, going from a clear backwardness compared to other developed countries (the sum of FDI assets and liabilities compared to GDP reached 16% in 1992), to play an active part in the field of international production (81% in 2007).

Both stocks of assets and liabilities grew, albeit unequally (graph 1): the former strongly, the latter less firmly. On the asset side, the insignificant external presence at the beginning of the nineties (3.3% of GDP in 1992), has given way to a different situation, which is clearly comparable to our fellow Community members (44% of their GDP in 2007). If we look more deeply into the FDI structure it can be observed that the asset stocks have been built up largely on share capital and other forms of stakeholding, with only an insignificant presence of types of related inter-firm funding. This is a distinguishing mark of Spanish assets compared to other countries, as will be shown later on.

These findings will obviously be more favourable to Spain if the figures are presented in truer values. The Banco de España (2007, pages 89-92) has recently carried out a review of Spanish FDI assets abroad, adjusted for the theoretical market value. The findings extend the Spanish position

quite noticeably, at least in recent years. As can be seen in the graph in box 1, shown there, the two series, the official one published in the Balance of Payments and the theoretical one estimated at market value went hand in hand until 2003. Since then a significant gap of 20 extra percentage points has been opened up, that is, as much as 61% of GDP, linked to the expansion of share values on the stock exchange markets.

Graph 1: Evolution and structure of International Investment Position (IIP) of Spanish FDI, 1.992-2.007



Source: Banco de España, *Balance of Payments and International Investment Position of Spain 2007*.

Anyway, the reasons behind that impressive expansion of the assets are various. Below, some will be mentioned: acquiring and improving ownership advantages, the solid state of company wealth, with high rates of profitability throughout all these years[10], the recurring use of mergers and takeovers in order to grow, the need to expand and diversify their activities to tackle the growing number of competitive challenges, or the adoption of a "new Anglo-Saxon business culture" according to The Economist ((10.02.06). All of this is linked to the brilliant rise in the international rankings of the business schools, in particular, and, the substantial improvement of human capital, in general. Nor must we ignore the framework in which firms have been working: the vigorous growth of the Spanish economy, favourable conditions for funding in national and international markets and a fiscal system very favourable for external FDI[11]. All of this, along with a favourable outlook for the evolution of future profits, has meant a considerable increase in resident firms' indebtedness, with growing resort to bank funding. This has clearly been reflected in other parts of the balance sheet, particularly in portfolio IIP (Banco de España, 2007).

10. According to the Central de Balances (Commercial Performance Information Bureau) of the Banco de España (2007).

11. The internationalisation of the Spanish economy has given rise to a number of works and research projects. Worthy of note, among others, are some classics and others very recent: Campa and Durán (1996), Guillén (2006), Durán (2006), Fernández-Otheo (2003, 2007a). On the determining factors at firm level see Plá-Barber (1999) and Gordo, Martin and Tello (2008).

The path followed by the stock of liabilities is a very different one, both regarding the starting conditions of the analysis (it is an FDI which is already mature) and its evolution since that time. At the beginning of the nineties Spain still benefited from the effects of the amount of investment brought about by its entry into the European Union[12], reaching in 1992 13% of GDP. Low level growth in successive years, with moments of acceleration around the turn of the century, gave way to stagnation in recent years, although provisionally this seems to have ended in 2007, thanks to the energy boost, brought on by important acquisitions of resident firms, and this has reached 37% of GDP.

This apparent loss of attractiveness of the Spanish economy for foreign capital is visible both on the plane of FDI inward flows and in the presence of a divestment process with negative effects on the production not completely observed on the aggregate plane, but affecting to particular sectors, basically manufacturing, some of which are highly technology intensive[13].

The main form of FDI financing was always share capital and other forms of stakeholding, but in contrast with what has been observed with assets, loans from the parent company or other subsidiaries to the Spanish subsidiary always accounted for a significant number (between 15-22% of total FDI in 1992 and 2007). In the above-mentioned graph, nonetheless a strong growth in this form can be seen around the turn of the century, though it subsequently eased off. The most reasonable explanation is the fiscal question, in line with what was mentioned at the beginning of the section: the higher fiscal burden borne by Spanish firms not only reoriented new FDI towards a greater use of inter-company loans, it also spurred a substitution process between modalities, aimed at reducing the amount liable for tax[14].

Different paths in the stocks of assets and liabilities curbed the traditional position of Spain as a net recipient of investment, transforming it into the opposite, that of a net issuer as can be seen in graph 1[15] . This trend change was first glimpsed around the turn of the century, and has been seen once more in recent years. (In 2007 the net IIP FDI balance accounted for 7.3% of GDP)[16].

The comparative outlook with other countries enables a more complete evaluation of the path of FDI stocks to be made (table 2). The summarised findings are the following. In term of assets volume, relative to GDP, Spain is situated at the average level of the countries selec-

12. What Baldwin, Forslid and Haaland (1996) call "effects of investment creation".

13. Myro, Martín and Fernández-Otheo (2006), Myro et al. (2007) and Myro and Fernández-Otheo (2008).

14. With company data (Banco de España Commercial Performance Information Bureau) towards the end of the nineties an important substitution of share capital by inter-company loans took place (Myro ,Martín and Fernández-Otheo, 2006); a fact which is also seen in balance of payments data. More recently, news has been published in the media that the Spanish Inland Revenue has warned several multinationals against "financial engineering" practices, when tax systems favoured paying interest through loans when there was a real motive, in accordance with legislation, some subsidiaries squared expenditure with revenue, so that the profit was reduced in order to have no tax to pay. (El País, 19-01.07).

15. The journey along this path was initially analysed by Dunning and Narula (1994). For the case of Spain, see López-Duarte and García-Canal (1998) and Durán and Úbeda (2001). The recipient and issuer perspectives are studied jointly in Fernández-Otheo (2003).

16. It is a comparatively clean balance from the perspective of its productive implications if it is borne in mind that the activity of the SPEs belonging to non-residents, which is not be sneezed at in the whole of the FDI (a third of the annual aggregate net flows, excluding real estate), is neutralised in practice, when flows are received and issued to and from abroad almost simultaneously. This does not mean that their impact is not considerable in assets and liabilities separately, and that in one way or another they distort FDI revenue, since there is no breakdown at all in terms of IIP in the balance of payments (and neither in that of other countries).

ted for comparison purposes, a long way below some of them, such as Holland, the United Kingdom or the Nordic ones, but above Italy, Portugal and Germany. It should be noticed that the lowest ratios of all correspond to the United States, and this can be explained by the importance of size of the domestic market, as is the case with the commercial opening up or with selfsame FDI of the EU if only extra-Community flows are considered. In terms of growth (1995-2006) it nevertheless provides the highest figure (after Portugal)[17].

With regard to liabilities levels, Spain is also in an intermediate situation. However, its stock shows a surprisingly low rate of growth, the lowest in all the countries observed, particularly between 2000 and 2006 (28%). This is not as much as took place in Ireland a country until recently disputed by the MNE where the stock of liabilities has shown an 8% fall. In any case, the contrast of Spain with nearly all other countries is sufficiently marked for us to be able to talk in clear terms of loss of attractiveness, or, if, you wish, a lessening of the comparative advantages enjoyed by Spain for foreign production-linked capital, particularly in manufacturing.

The fact that liabilities have risen less than assets in most community countries is to be expected, since nearly all of them can be considered as mature in terms of foreign investment, where business opportunities are fewer, there is more competition, especially in manufacturing and, foreseeably, profit margins will be smaller than in other higher growth areas, especially in emerging countries. This last point is difficult to establish due to lack of information.

On the investor balance sheet something is seen which was to be expected, since this affects developed countries: FDI assets are greater than liabilities; differences in the respective balances are, nevertheless, considerable, and in most cases the positive slope has grown more pronounced with time. Spain has substantially modified its role in this group of countries, steadily becoming part of the common norm, with a predominance of positive signs: starting from a notably negative position, in 2006 it showed a positive balance.

17. A recent analysis on the evolution of international FDI, on the recipient plane can be seen in Myro et al. (2007).

Table 2: Evolution of FDI International Investment Position, 1.995-2.006

(in percentage GDP)

Country	Assets			Liabilities			Balance		
	1995[(a)]	2000	2006	1995	2000	2006	1995	2000	2006
Austria	4,9	12,7	24,6	7,3	15,5	30,7	-2,4	-2,9	-6,1
Denmark	15,2	41,0	51,5	12,3	41,3	46,7	2,9	-0,3	4,8
Finland	11,4	42,3	42,7	6,5	19,7	30,2	5,0	22,6	12,5
France	12,7	33,2	49,5	11,9	19,4	35,6	0,8	13,8	13,9
Germany	10,2	25,2	33,2	7,6	24,5	22,3	2,6	0,7	10,9
Holland	42,9	78,5	102,1	29,6	62,7	71,4	13,2	15,9	30,8
Italy	8,6	16,3	19,5	5,6	10,2	15,2	3,0	6,1	4,3
Portugal	3,5	17,4	26,6	15,9	28,2	39,3	-12,4	-10,8	-12,7
Spain	5,8	28,6	39,5	17,5	26,7	34,1	-11,7	1,9	5,4
Sweden	28,3	49,9	62,5	12,0	38,1	47,5	16,3	11,9	15,0
United Kingdom	26,6	61,3	61,0	17,4	29,9	43,6	9,2	31,3	17,4
U.S.A.	9,4	13,3	19,5	7,2	12,7	16,4	2,2	0,6	3,1

Note :(a) The figures for Denmark and Portugal correspond to 1996.
Source: Own elaboration with Eurostat data.

The FDI stocks profile would be inconclusive without information on how it is made-up, that is, which part corresponds to share and which the net financial debt. It should be remembered that the final aim is to find out the profitability of the investment process and the composition of stocks that might influence it.

In a general way, FDI has always been sustained by share capital, basically, both in assets and liabilities; though in the former they take up a rather greater space (table 3). This happens for all the countries, despite the disparity in observed behaviour, and except for a few particular cases (for example, Ireland[18], whose data are not shown in the table), there has scarcely been any variation over time.

Except for a few cases (for example, Holland, with 60 % of the total), in most countries the existing assets in 2006 have been based upon share capital, with a very slight margin for related funding. Spain has been, along with the United Kingdom and Portugal, a country where this latter instrument has had very little importance.

18. Ireland is the most significant example of changes in structure of its liabilities (not in assets, where it follows a similar pattern to the remaining countries), but for also being the one with the greatest changes in corporation tax. In 2000 shares and other forms of stakeholdings accounted for 83% of the total, a figure below that for other countries looked at in the table. In 2006, however, a massive fall in inter-company loans (of the order of 30% of GDP), and a dizzy rise in shares and other forms of stakeholding, with this type reaching 144% of the total stock. The reason is clear: firms were adjusting to the new fiscal conditions, particularly advantageous for firms' returns.

Table 3: Dissaggregation of FDI International Investment Position by instruments, 1.995-2.006

(in percentage GDP)

Country	Assets and other forms of stakeholding (A)			Inter-company loans			% A/Total IIP		
	1995 [a]	2000	2006 [b]	1995 [a]	2000	2006 [b]	1995 [a]	2000	2006 [b]
ASSETS									
Denmark	12,0	33,7	35,9	3,2	7,4	15,6	79,0	82,1	69,8
Finland	9,4	29,6	32,7	2,0	12,7	10,0	82,3	69,9	76,5
France	10,3	24,5	33,7	2,4	8,7	15,7	80,9	73,8	68,2
Holland	29,9	47,2	67,6	12,9	31,3	34,5	69,8	60,2	66,2
Germany	8,0	20,1	27,5	2,1	5,2	5,7	79,0	79,5	82,9
Portugal	3,1	15,8	21,3	0,4	1,6	3,8	88,4	91,0	85,0
Spain	5,4	26,5	36,9	0,4	2,1	2,4	92,8	92,7	93,9
Sweden	24,4	38,5	55,1	4,0	11,5	4,7	86,0	77,1	92,2
United Kingdom	24,1	60,7	60,7	2,5	0,5	0,2	90,8	99,1	99,6
LIABILITIES									
Denmark	8,4	29,9	30,2	3,9	11,4	16,5	68,4	72,4	64,7
Finland	5,1	14,3	24,1	1,4	5,4	6,1	78,7	72,7	79,8
France	9,9	13,5	22,0	2,0	5,8	13,6	83,3	69,9	61,8
Holland	16,8	34,4	40,0	12,8	28,3	31,3	56,7	54,8	56,1
Germany	3,8	12,5	13,6	3,8	12,0	8,8	49,5	51,1	60,7
Portugal	12,9	25,6	34,2	3,0	2,6	3,2	81,2	90,8	91,6
Spain	14,7	22,7	25,6	2,8	4,0	8,7	84,0	85,0	74,5
Sweden	9,7	25,7	35,6	2,3	12,4	13,8	81,0	67,5	72,1
United Kingdom	14,6	23,9	33,1	2,9	6,0	10,5	83,5	79,9	75,9

Notes : (a) Denmark: 1996. (b) Portugal and Sweden: 2005.

Source : Own elaboration with Eurostat data and Banco de España , *Balance of Payments and International Investment Positión* .

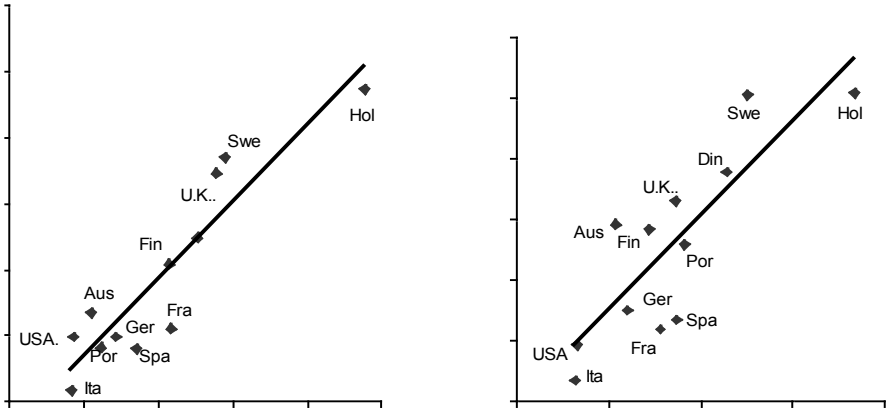
In liabilities, however, there is a different picture. Spain -and to a lesser extent France and the United Kingdom- are to be found among the countries where related finance has been gaining relative weighting, without, however, reaching more than a quarter of the stock total. As was mentioned above, the fiscal issue seems to have been an important factor in this change. But it can also be observed that the opposite situation is found in countries such as Germany, where prior to the beginning of the century, a clear balance has been maintained between both types (a clear sign of high business taxation), but it has been showing more of a preference for share capital in these last few years.

3.2. FDI Income

On the aggregate level, FDI stocks and incomes received are closely related in the different countries studied, as would be expected (graph 2).Taking as reference the levels for the final years of the series (2004-06), it is seen, nonetheless, that the association is somewhat higher in assets rather than liabilities And if this same exercise is carried out by taking the annual average variation rate, the result would be to continue showing this association.

Graph 2: FDI International Investment Position and income of FDI, 2.004-2.006

(in percentage og GDP)



Source: Own elaboration with Eurostat data.

Thus, as stocks increase, the revenue obtained by countries has risen, but not in the same fashion (table 4). Spain is one of the countries in which income rose most quickly (from 0.3 to 1.4% of GDP between 1995-98 and 2003-06; on the other hand it was the country with the slowest growth in payments (from 0.9 to 1.2%). A similar situation with regard to income is noticed in smaller countries or joined the international production system later (Austria, Finland and Portugal); but they do not follow the same trend as Spain in payments, since all of them show the highest growth rates.

Measured in GDP terms, the level of revenue places Spain in lower positions on the scale, some way behind Holland, United Kingdom and the Nordic countries, though quite near to France, Germany and Portugal. In payments Spain is also a long way below average, albeit above France and Italy, and level with Germany. And since revenue is higher than payments, in almost every case (except in Portugal), the balances are positive, obviously, as is to be expected in countries with a lengthy record of investment. But it must be added at this point that, except in a small number of cases (United Kingdom, Holland and Sweden), the balance scarcely reaches 1% of GDP. A long way below this percentage come Germany and Spain (0.3-0.2%) and even further away Italy. It is worth stressing in the case of Spain that the usual sign has been a slightly negative one, and that only since 2003 have slightly positive results been obtained.

To sum up, Spain is a country where revenue grew more quickly, but its figures are low in comparative terms; and it was also the country in which payments showed the lowest growth. This, inevitably, must be placed in the context of the weak path followed by foreign capital in the last decade, an issue which we will comment on anew in the next section.

Table 4: FDI Revenues and payments through income, 1.995-2.006

(in percentage of GDP)

Country	Revenues			Payments			Balance		
	1995-98 [a]	1999-02 [b]	2003-06 [c]	1995-98 [a]	1999-02 [b]	2003-06 [c]	1995-98 [a]	1999-02 [b]	2003-06 [c]
Austria	0,3	0,8	2,1	0,9	1,4	2,2	-0,6	-0,6	-0,1
Denmark		1,9	4,7		1,7	3,6		0,2	0,9
Finland	1,2	3,2	3,6	1,1	2,1	2,7	0,1	1,1	0,9
France		1,0	2,0		0,3	1,0		0,8	0,9
Germany	1,2	0,6	1,6	0,7	0,6	1,3	0,4	0,0	0,3
Holland	3,6	4,3	7,5	2,3	2,6	4,2	1,3	1,7	3,2
Italy		0,3	0,3		0,4	0,3		-0,1	0,0
Portugal	0,4	0,4	1,3	1,0	1,3	2,0	-0,6	-0,9	-0,7
Spain	0,3	0,8	1,4	0,9	1,1	1,2	-0,6	-0,3	0,2
Sweden		5,1	6,4		3,0	4,2		2,0	2,3
United Kingdom	3,4	4,4	5,9	1,4	1,9	2,6	2,0	2,5	3,3
U.S.A.	1,2	1,2	1,8	0,4	0,3	0,8	0,8	0,9	1,0

Notes: (a) Portugal: 1997-1998; (b) France, Italy and Denmark: share capital and reinvested profits only.
(c) France and Italy: 2004-06, and Denmark: 2005-06.
Source: Own elaboration with Eurostat data.

4. Implicit FDI profitability

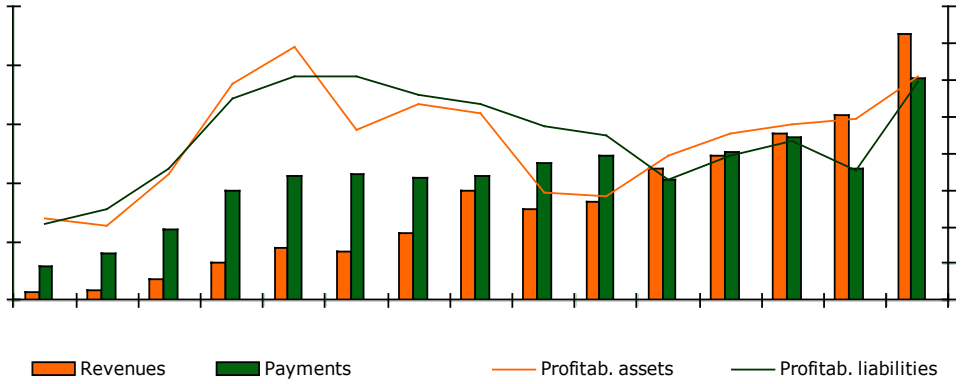
On the aggregate plane considered here, for the period 1993-2007, the annual association between revenue from income and profitability is slight (R2:0.16), greater for the payments, which seems to indicate that the maturity of the stock, higher in the case of liabilities than assets, among other factors, plays an important role in explaining profitability (graph 3).

On the contrary, a great coincidence is noticed on the evolution of asset and liability profitability as both of them moved in line with each other during the period under consideration. The highest rates were achieved in the second half of the last decade, initiating the upward movement almost at the same time, years before the economic crisis of the nineties reduced profitability to its lowest level, and regaining this upward path in the last few years. Evolution was similar but positions alternated: there were hardly any differences at the start (1993-97) and liabilities gained on assets later on (1998-2002), whilst assets did so afterwards (2003-06). It is true, however, that they were much reduced in almost the whole of this period (in eleven of the fifteen years it has swung between -0.4 and +0.8).

In the literature it is pointed out that the lesser maturity of the assets may be associated with lower profitability rates, so that foreign capital in Spain would have an advantage in the first part of the period. As has been shown, this is not the case in the first years recorded. Later on (1998-2002), however, the continuing fall in asset returns could indeed be linked to the speed with which stock was accumulated (even if it had been done to a very large extent

more through takeovers than by greenfield operations, which guarantee an active stake in the market from the beginning. But, not without a certain surprise, the stock has continued its rapid rate of growth since 2003, at the same time there is a noticeable improvement in rates every year, reaching the figure achieved in 1997. Certainly, what happened in this period must not be linked with the favourable economic cycle in the countries where significant parts of the stock are located, but also to an improvement in firms' competitive advantages in their international experience.

Graph 2



The evolution of the profitability of liabilities up to the early years of this century is more worrying because its potential impact on the productive system, since it is a more experienced, mature stock, controlled by multinationals with long experience[19]. It is true that there has been some sort of a recovery in rates of profitability since 2004, since incomes have risen without there having been a similar increase in stock, but this is not a solid improvement either, the figures are still below those reached in the nineties. This is only what is occurring on the national plane because showing the situation of other countries is an inestimable aid for making a more accurate evaluation of what has occurred in Spain (table 5).

With all the reservations possible about Eurostat information, one thing is certain: Spain is one of the countries with the lowest implicit profitability figures, for assets and liabilities, throughout the period 1995-2006. Its rates are 4.5 and 3.8, respectively in the last period (2003-06), only exceeded by those for Italy and France, and they are a long way short of countries such as the United States, United Kingdom, Austria and the Nordic countries (almost all of whom are above 10%).

19. Signs of weakness are to be found both in the profitability of the net asset, calculated from the company balance sheets of non-resident firms in the Banco de España's Commercial Performance Information Bureau, particularly between 1994 and 2001. This did not happen to resident firms. For more detail, see Myro, Martín and Fernández-Otheo (2006).

On the evolutionary plane, the highest profitability rates for Spanish assets were achieved in the period 1995-98; the lowest in the following period, to a great extent due to the economic crisis (1999-02), with the average area (4.5%) corresponding to the final period (2003-06). Looking at the path of the rest of the countries in the extreme periods, setbacks (Germany and Portugal, and to a lesser extent the United Kingdom and the United States) are rather more numerous than the advances (Austria, France and even Holland). As in the case of Spain, improvements have been the norm from the beginning of the century to the last few years (except for Finland).

Table 5: Implicit profitability of the stock of FDI assets and liabilities, 1.995-2.006

(in percentage)

País	Assets			Liabilities			Balance		
	1995-98 [a]	1999-02 [b]	2003-06 [c]	1995-98 [a]	1999-02 [b]	2003-06 [c]	1995-98 [a]	1999-02 [b]	2003-06 [c]
Austria	4,8	7,2	10,7	12,1	10,7	11,4	-7,4	-3,5	-0,7
Denmark		7,8	10,1		8,5	8,5		-0,7	1,6
Finland	9,0	10,4	8,7	16,5	13,8	10,4	-7,5	-3,4	-1,7
France		4,4	4,9		1,7	3,4		2,7	1,5
Germany	10,5	2,9	5,8	9,0	3,6	5,4	1,5	-0,7	0,3
Holland	8,1	6,7	8,5	7,8	5,5	6,1	0,4	1,2	2,4
Italy		1,9	2,2		4,3	2,9		-2,4	-0,7
Portugal	10,3	3,9	6,2	6,0	5,4	5,9	4,3	-1,5	0,3
Spain	5,3	4,1	4,5	5,5	5,1	3,8	-0,1	-1,0	0,8
Sweden		12,0	12,1		10,7	9,0		1,4	3,1
United Kingdom	14,0	9,7	10,8	9,1	7,6	8,3	5,0	2,0	2,6
U.S.A.	13,0	10,3	11,2	6,0	3,6	6,4	7,0	6,6	4,9

Notes: (a) Portugal: 1997-1998; (b) France, Italy and Denmark: share capital and reinvested profits only.
(c) France and Italy: 2004-06, and Denmark: 2005-06.
Source: Own elaboration with Eurostat data.

As far as the profitability of the liabilities is concerned hardly any country can be found in which there has been an advance between extreme periods (France and the United States); though there are some with similar figures (Austria and Portugal); and Spain is situated among the countries where the most significant regressive movements have taken place (31%), though at a rather lesser rate than Germany and Finland. If we come nearer to our days (from 1999-02 to the present time), Spain's comparative situation worsened to some extent, since along with Italy, Finland and Sweden, they are the only countries where retrenchment of the figures continued.

Differences in profitability tend to be more positive than negative over time, and indeed, there are only a few countries in which in the period 2003-06 there was a negative net balance (small ones for Italy and Austria, and larger for Finland). Spain, normally with a negative sign, has changed to having a positive balance in this last period, albeit a modest one (0.8

percentage points) compared to Holland, Sweden, United Kingdom and United States) more than 2 points).

The fact that the United States still maintains such a high positive differential in recent years (4.9 percentage points, less in any case than the 7-point figure achieved between 1995-98), is certainly an atypical event, since it casts doubt on the lesser efficiency of the FDI received by that country. Thus, it would be difficult to explain the buoyant path of the flows in the last decade; and what is more, this occurs not only on the aggregate plane but also, to a large extent, over all sectors and countries[20]. In fact, this issue has been highly controversial, with other arguments being employed such as problems of accounting for the FDI stocks issued (dark matter argument[21]), the different maturity of the latter and the one received, of the fiscal question affecting the inward FDI[22].

But it is necessary to delve further into the ins and outs making up profitability. To what extent these aggregate results are affected by the makeup of FDI by instruments (shares and other forms of stakeholding and inter-company loans) is a relevant question in countries such as Spain, where there have indeed been signs of substitution processes between them, as was mentioned in the previous section. The choice of one option or another for financing FDI operations takes place after weighing up different aspects, and, in particular, the differences in interest rates between the country of origin and the host or the fiscal treatment of business returns, also at both poles. The intention here does not go beyond observing what happens with the implicit profitability corresponding to each FDI instrument, comparing differences between countries and in the case of Spain, whether the figures can explain to some extent changes in the strategy involved in the composition of the stock of liabilities.

There is a clear early finding, bearing in mind the restraints imposed by the lesser amount of information available: implicit profitability for assets and liabilities is, as a rule, higher in shares and other forms of stakeholding than in inter-company loans, the rate of which tends moreover to fall over time; that is, the latter exert downward pressure on profitability (table 6). If assets are analysed separately the corresponding figures show some singularities. For example, differences in profitability of both FDI instruments are very marked, even in those countries in which their relative importance is similar (Holland, particularly). For Spain, nevertheless, where there is very little influence from inter-company loans, the figures are very close in the first two periods (data are not available for 2003-06).

Regarding the profitability of the liability, what we said about the asset in terms of there being little similarity in the values obtained by countries in each instrument is partially just as true in the case here. Holland is, once again, one of the countries showing the greatest contrast,

20. Higgins, Klitgaard and Tille (2005).

21. Haussmann, R. and Sturzennegger (2005).

22. Other arguments used, according to Higgins, Klitgaard and Tille (2005), are the following: a) firms in the United States are more efficient than foreign ones, and there is some evidence in that respect; moreover, they would have been successful as investors in well-run subsidiaries. b) Foreign firms in United States are more recent than United States ones abroad, and would have had less time to develop market power. However, this hypothesis loses force as assets in that country mature. c) Foreign firms in the United States would have faced greater competitive pressure, and thus had their margins reduced.. And d) Differences in fiscal arrangements may lead profits obtained in the United States to be assigned to the host country or another, or else, to persuade American firms to assign profits from activities carried out to subsidiaries in third countries.
See, likewise: Mataloni, R.J. (2000) and Heath (2007).

and Germany the one with the greatest similarity. Both countries show a strong presence of inter-company loans. In Spain, where this instrument has been showing much more often, the distance between profitability is very small, it is one of the lowest in the period 1999-02 (only above Holland) and has followed a downward path. This fact is important because, in principle, it does not appear to support the process of substitution of share capital by related debt, which took place in Spain around the turn of the century.

Table 6: Implicit FDI profitability from instruments, 1.995-2.006

(in percentage)

Country	Assets and other forms of stakeholding			Inter-company loans		
	1995-98	1999-02	2003-06	1995-98	1999-02	2003-06
Assets						
Finland	10,0	12,7	12,5	5,4	5,0	2,0
France		6,1	6,3			
Germany	11,7	2,6	6,5	6,0	4,0	2,3
Holland	10,6	9,1	10,9	3,1	2,7	4,2
Portugal	10,9	3,9	6,8	5,6	4,8	2,7
Spain	5,3	4,2		5,5	3,7	
Sweden		13,0	12,3		7,1	10,9
United Kingdom	13,8	9,1	10,8			
Liabilities						
Finland	19,7	16,1	12,7	4,6	5,6	3,5
France		2,4	4,5			
Germany	11,9	1,6	5,3	6,1	5,4	5,5
Holland	11,2	7,9	8,2	3,2	2,1	3,4
Portugal	6,7	5,5	6,5	3,9	5,5	1,8
Spain	5,6	5,4		4,8	3,8	
Sweden		11,5	10,1		6,7	6,7
United Kingdom	9,2	7,2	9,7	8,4	9,0	5,1

Note: Portugal: 1997-1998.
Sources : Own elaboration with Eurostat data and Banco de España , *Balance of Payments International Investment Positión* .

As has been seen throughout the section, if we take as reference the end of the 90s' crisis, in at least four countries there has been a deterioration in the profitability rates of the liability for the whole of the FDI, with Spain being one of the most affected. Although many different factors play a part in determining the whole of FDI, the profitability obtained probably holds a privileged position in the evaluation of how attractive the locating of EMNs is, thus reflecting in one way or other on different planes, often superimposed ones, of FDI: investment flows, divestments and relocations and impact on production activity. For example, in the case of Spain, the steady reduction of rates, in contrast with other neighbouring countries, in no way comes as a surprise when observing other manifestations of the presence of foreign capital: ever-weaker capital inflows to particular manufacturing sectors, stagnation in terms of the added value generated in the invested firms, a generalised albeit slight reduction in

net fixed assets which is noted in various sectors with foreign investment since 2003, and even, the presence of divestments and relocations of firms and industrial installations, backed up, in most cases by asset sales to residents, rather than in divestments related to the selling off of assets[23] .

4.1. A Note on FDI Stocks and Profitability with Data from Firms' Balance Sheets

These pages have devoted considerable space to clarifying the contents of available statistical sources, with their advantages and limitations, and to commenting on the positive and negative aspects of stock evaluations. The aim was merely to present the findings obtained in a framework which can be understood, with relevant nuances, and increase our knowledge of a topic which has hardly been studied. With the aim of wrapping up everything hitherto said, new information is presented for Spain, outside the balance of payments field, stemming from the investing firms themselves. It is a particularly useful source since it enables aspects not previously considered, as the necessary separation between productive and brokering FDI (SPEs), impossible to do from the perspective of the balance of payments on the plane of stocks.

The information comes from the reports of the Ministry of Industry, Trade and Tourism (Dirección General de Comercio de Inversiones), responsible for the company reports. It is produced from the business reports which have to be presented to the Ministry (Register of Foreign Investment) every year (there are only data for the period 2003-06). As far as these pages are concerned, FDI stocks are built up by the funds themselves plus inter-company loans, and revenue, from the after-tax results, which represents a good approximation to what we have been calling implicit profitability. In the data provided by firms the global results of the invested firms are not registered, but rather, just that proportion corresponding to residents and non-residents on the basis of their stake in the share capital. This is an important aspect to take into account when comparison with other sources is made.

The first step consisted of comparing stocks of assets and liabilities with those of the Spanish Balance of Payments (table 7), with the following result. The stocks values provided by the Register are fewer (between a third and a fifth for assets and liabilities, respectively).These differences, the explanation of which escapes these pages, do not mar the comparison.

The following have attempted to clarify different questions concerning the evaluation of FDI, for example, the segregation of those stocks not linked to the Spanish productive system[24], that is, the activity of those SPEs based in Spain and corresponding the most to non-residents, and their impact on FDI. In this aspect the fiscal advantages in the way business returns abroad are treated are fundamental.

23. See: Myro, Martín and Fernández-Otheo (2006), Myro et al.(2007) and Myro and Fernández-Otheo (2008).
It is worth pointing out that, according to some of the studies, there are not infrequently cases of relocation in which an important reason is the drop in profitability, thus justifying the transfer to other places where it is higher.

24. Investment really linked to the Spanish productive system represents most of the total of FDI stocks (around three quarters of the total for assets and six points fewer for liabilities). The speedy expansion of the total asset stock, from 2003, has been due solely to productive FDI. In liabilities, on the other hand, the weak reduction of stock has been caused by the SPEs, since productive FDI has hardly varied in the last four years. Both planes confirm, in any case, the asymmetry of different FDI behaviour as observed when the balance of payments data were analysed.

Table 7: FDI stocks and profitability in foreign and domestic firms according to the Spannish Foreign Investment Register, 2.003-2.006

Variable	FDI no SPEs				FDI SPEs				Total			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
FDI stock (% GDP) [a]												
Assets	15,9	16,4	20,2	22,9	6,9	6,7	6,8	7,0	22,8	23,1	27,0	29,8
Liabilities	22,4	22,4	23,3	23,0	6,3	6,0	5,2	4,8	28,7	28,4	28,5	27,8
After tax results (% GDP)												
Assets	0,8	1,3	2,0	2,9	0,7	1,1	1,2	0,5	1,5	2,4	3,2	3,3
Liabilities	1,2	1,5	1,6	1,9	0,1	0,4	0,6	0,1	1,3	1,8	2,3	2,1
Implicit profitabilit (%) [b]												
Assets		8,8	12,9	15,3		17,1	20,1	7,7		10,5	13,8	12,4
Liabilities		7,0	7,9	8,9		6,1	11,3	3,0		6,3	8,0	7,2

Notes: (a) Stock funds plus inter-company loans. (b) After tax results among stocks of assets and liabilities of the previous year.
Source: Own elaboration from data from Dirección General de Comercio e Inversiones, *Direct Investment Foreign Position 2003-2006.*

The results can be summarized as follows: First, the after-tax results rose both in assets and liabilities, but the former did so to a much greater extent than the latter; and as with the stock, the rate was established by FDI no SPEs. Second and more important, implicit profitability is much higher than in the balance of payments, especially in the case of assets; and the latter were a good deal higher (12.3% on average for the period 2004-06) than the liability ones (7.2%), figures a long way distant (particularly with the assets) from those achieved by means of the balance of payments. This wide variance in results between both stocks, which is certainly anomalous, joins that observed for the United States, as was pointed out at that moment, and will have to be analysed by studying other parameters, particularly the sectoral and geographical makeup of the stocks and incomes. Moreover, the results of the SPEs, which certainly follow an erratic path, would have exerted some slight pressure on the aggregate profitability rates in 2004 and 2005, but not in 2006. So, with these returns for the liabilities, the lack of attractiveness of the Spanish economy for foreign capital has to be put on hold for the moment.

5. Conclusions

A quarter of a century has been enough for Spain to become an economy completely integrated in international production, more as a result of it having an extraordinarily expanded presence abroad with FDI assets than from the leisurely path of liabilities controlled by foreign capital, in balance of payments terminology. This has led to Spain showing, at this moment in time, a slightly positive balance in FDI stock.

But it is necessary to go further, to move to another part of the payment balance sheet to find out what has happened with revenue and payments by FDI income and about how efficiently (in terms of implicit profitability) the asset and liability stocks have been used.

This is convenient because revenues obtained and profitability are associated with flows and stocks, and with their future, so this could explain the behaviour of resident and non-resident firms, and the expansion or contraction of their productive activities. With the prudence needed when dealing with a complex topic, and one which is scarcely known, with measurement and information problems which are difficult to solve, these pages offer some initial answers.

To achieve it, first the subject of the stocks has been dealt with. Beginning with assets, Spain is one of the countries which showed the highest growth; it is also the case that there was a delay in carrying out her integration into the international sphere of production. Since this country still has the need to have foreign capital, the problem arises in the stock of liabilities: foreign presence has increased in Spain, but less than usual in other developed countries.

The following step is to analyse the FDI incomes. The findings follow the lines of the stocks: Spanish income by FDI rose by very much more than the average, but its figures (in GDP terms) are low in comparative terms. It was also the country in which payments showed the least growth, which, inevitably must be related to the disjointed path followed by foreign capital during the last decade. In a similar way, to the net balance of stocks, that of incomes has been positive in these last few years.

Comparing stocks and incomes, an initial idea can be gained of the efficiency of the investment process, by means of implicit profitability (obtained from the coefficient of revenues or payments and the previous year's stocks). It is worthwhile pointing out, to begin with, that differences between the asset profitability and the liability of Spanish FDI are small: in favour of the latter around the turn of the century, and in favour of the asset from 2003. A second important aspect is that both profitability rates have been a good deal lower than those obtained by Community countries who have been used for purposes of comparison, and, of course, by the United States. The third aspect alludes to their path; whereas a firm recovery by the assets' profitability rates can be seen as years went by, those of the liability, in the period 2003-06, underwent one of their lowest moments. This inevitably has to be placed in relation with the not at all favourable investment flows and the presence of divestments and relocations, more usual in manufactures. Finally, when the rates for FDI instruments are disaggregated, it is observed that asset and liability profitability is higher in shares and other forms of stakeholding than in inter-company loans, so this result still does not provide a convincing explanation of the substitution process of shares by related debt, as detected around the turn of the century.

The balance of payments route has been of use to show clearly the profile of the investing process. The use of a second way, also stemming from official areas (Register of Foreign Investments) albeit with data from the investing firms themselves has been of particular use in comparing the findings obtained, while at the same time allowing to a certain extent a breakdown of the boundaries of the productive part of FDI from that of brokering, linked to SPE activity belonging to non-residents.

It is necessary to point out, however, that the approach to implicit profitability has been made this time by putting the results in the numerator after tax, and in the denominator own funds plus intercompany loans. In this manner the criterion used comes closer to the balance of payments data. The results obtained give a considerable boost to the profitability figures

which have previously been used, and basically back up the profile described: excellent performance of the asset liability in FDI no SPEs (from 9 to 15% between 2004 and 2006), and widening gaps between one and the other, in favour of the asset. Thus we see here a reproduction of the polemical case of the United States. In observing the arguments wielded in order to explain it, it does not seem that most of them would be of use for Spain, and thus there is no answer until new information appears regarding the sectoral and geographical composition of stocks and incomes.

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La gestión de la bonanza de las materias primas: aspectos normativos, y un análisis para el caso de Chile*

ÁREA: 1
TIPO: Specific Cases

Raw material bonanza management: legal aspects, and an analysis for Chile

A gestão da bonança das matérias-primas: aspectos normativos e uma análise para o caso do Chile

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El extraordinario incremento en los precios de las materias primas en los últimos años ha beneficiado considerablemente a América Latina. Este incremento constituye tanto una oportunidad como un riesgo para las economías del continente, siendo de gran importancia la gestión que sus autoridades hagan de este proceso. Muchos economistas observan que el origen de este proceso inflacionario en los precios de estos productos se encuentra en que son un recurso finito, confirmando la profecía maltusiana sobre el desarrollo económico. Para otros, se trata simplemente de un fenómeno transitorio, donde la capacidad de innovación del ser humano llevará a una normalización de los precios en el largo plazo. En función de cómo se perciba el incremento en precios, el modo en que deban reaccionar las autoridades para aprovechar esta oportunidad será distinto. En el caso de América Latina, resulta de interés el caso de Chile, por la importancia del cobre para su economía, y la activa gestión por parte de las autoridades.

The extraordinary increase in raw materials prices in recent years has been of considerable benefit for Latin America. This increase constitutes both an opportunity and a risk for the economies on this continent, and the way in which the authorities handle this process is extremely important. Many economists have observed that the source of this inflation process in the prices of these products lies in the fact that they are a finite resource, thus confirming the Malthusian Prophecy on economic development. For others, it is just a transitory phenomenon, where mankind's capacity for innovation will lead to a stabilisation of prices on the long term. Depending on how the price increase is perceived, there are different opinions on how authorities should react in order to make the most of this opportunity. In the case of Latin America, the case of Chile is of particular interest, due to the significance of copper for its economy, and active management by the authorities in this country.

O extraordinário aumento nos preços das matérias-primas nos últimos anos beneficiou consideravelmente a América Latina. Este aumento constitui tanto uma oportunidade como um risco para as economias do continente, sendo de grande importância a gestão que as autoridades façam deste processo. Muitos economistas observam que a origem deste processo inflacionista nos preços destes produtos se encontra no facto de serem um recurso finito, confirmando a profecia maltusiana sobre o desenvolvimento económico. Para outros, trata-se simplesmente de um fenómeno transitório, onde a capacidade de inovação do ser humano levará a uma normalização dos preços no longo prazo. Em função de como se entenda o aumento nos preços, o modo como as autoridades devem reagir para aproveitar esta oportunidade será diferente. No caso da América Latina, tem interesse o caso do Chile, pela importância do cobre para a sua economia e a gestão activa por parte das autoridades.

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1. Introducción

América Latina es una de las principales regiones productoras y exportadoras de materias primas, y como tal, una de las principales beneficiadas del extraordinario incremento en el precio de éstas en los últimos años. Este proceso representa tanto grandes oportunidades como elevados riesgos, cuya materialización depende, en gran medida, de cómo las autoridades de esta región gestionen el proceso. En efecto, los elevados precios de las materias primas que han disfrutado las economías de América Latina las han situado ante una extraordinaria oportunidad de emplear los elevados ingresos financieros derivados de la extracción y producción de materias primas para desarrollar un patrón de crecimiento que explote sus ventajas comparativas, pero al mismo tiempo no impida la transición hacia un crecimiento de mayor valor añadido de la producción, siguiendo el ejemplo de países como Australia o Nueva Zelanda.

No resulta obvio, en todo caso, la reacción adecuada a un fenómeno de estas características. Para ello, se debe examinar la causa de este fuerte incremento del precio de las materias primas. Esta reside, para algunos, en la incorporación de China e India a la economía mundial, al modo de vida occidental. Este fenómeno, añadido a la aparente limitación de los recursos de la tierra, hace que el incremento de precios se perciba como de carácter permanente. Muchos economistas observan este fenómeno como la afirmación de la profecía maltusiana, de acuerdo con la cual las limitaciones a la producción de materias primas conllevan a un proceso inflacionario de sus precios. Esta lectura de este fenómeno profetiza efectos negativos para todos los países, pero en el caso de América Latina también puede augurar efectos beneficiosos. De acuerdo con otra lectura, más optimista, el ingenio humano descubrirá el modo de aumentar la eficiencia en la generación de materias primas y que nos encontramos frente a algo transitorio. Tan pronto como el ingenio humano reaccione, los precios de las materias primas disminuirán. Teniendo en cuenta estas consideraciones, resulta interesante estudiar esta posibilidad a partir del caso de Chile, con gran concentración en la producción de cobre, que ha registrado un fuerte incremento en su precio, y donde las autoridades han gestionando activamente este proceso.

El reciente incremento en el precio de las materias primas hace pensar en una nueva fase en la historia de los mercados internacionales de materias primas. Una fase similar a la experimentada en el siglo diecinueve, en la cual se observó un crecimiento mundial guiado por procesos de industrialización intensos en materias primas. Esta analogía hace pensar que el rol del Reino Unido como principal demandante de materias primas provenientes de los Estados Unidos y Oceanía ha sido asumido en este siglo por China e India y su demanda de materias primas provenientes de América Latina, y por los países exportadores de petróleo.

Este artículo analiza el impacto de este extraordinario incremento del precio de las materias primas en las economías Latinoamericanas, prestando particular atención al caso de Chile. A estos efectos, la segunda sección del artículo se concentrará sobre lo que son estas materias primas, la importancia de éstas para América Latina, la importancia de las exportaciones de esta región al mundo y lo que ha pasado con sus precios. La tercera sección proporcionará una discusión normativa sobre el modo en que un episodio de

Palabras clave

América Latina, Materias Primas, Comercio, Desarrollo

Key words

Latin America, Raw Materials, Trade, Development

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estas características debiera gestionarse. La cuarta sección analizará la respuesta de Chile, país que ha experimentado un fuerte incremento en su principal bien de exportación (el cobre). La quinta sección, finalmente, presenta las principales conclusiones.

2. Las Exportaciones de Materias Primas y América Latina:

El término "materias primas" aglutina a un conjunto heterogéneo de bienes, englobando entre otros a alimentos, materias primas de origen vegetal, metales, minerales y combustibles. El valor total de las exportaciones mundiales de estos bienes aumentó de $1.3 trillones en 2001 a $3.0 trillones en 2007. Si bien puede hablarse, en general, de un fuerte incremento en el precio de las materias primas, las evoluciones son distintas en función del tipo de producto. En efecto, las materias primas minerales son las que han registrado un mayor incremento, destacando el caso de los metales, especialmente el cobre, y del petróleo, que han alcanzado máximos históricos. Así se observa, por ejemplo, que en el último quinquenio y alcanzaron tasas anuales de crecimiento promedio de hasta el 31% en Perú o el 26.5% en Chile. Por otro lado, los cultivos tropicales como el café, el té o el azúcar han tenido un comportamiento muy diferente, en tanto que sus precios han registrado, incluso, caídas. Finalmente, si se observa la tendencia a largo plazo, los precios de materias primas agrarias simplemente se están recuperando de una larga época de precios deprimidos.

En los países de América Latina, el sector de las materias primas tiene una gran importancia sobre la actividad económica, hasta el punto que América Latina es una de las áreas exportadoras de materias primas más importantes a nivel mundial, tras los países exportadores de petróleo del Golfo. En efecto, para países como Argentina y Chile las exportaciones representan un porcentaje superior al 34% del PIB, porcentaje que en Perú y Colombia se sitúa en 19% y 14% del PIB respectivamente. Esta tendencia se ha acentuado en determinados países (Venezuela, Chile y Perú), dado que algunas de sus principales materias de exportación han registrado una gran revalorización (petróleo y metales, y particularmente el cobre)[1].

El cociente entre exportaciones de materias primas y PIB refleja adecuadamente la importancia de estas para la economía, pero no su importancia sobre el sector exportador de un país concreto, en tanto que en América Latina hay importantes diferencias en términos de apertura comercial. Así, las diferencias entre el peso de las exportaciones sobre el tamaño de la economía resultan muy superiores a las que se observan entre los pesos de las exportaciones de materias primas sobre el total de exportaciones, tal y como se observa en el gráfico 1. En efecto, si bien existen importantes diferencias entre el 50% y el 95% que suponen las materias primas sobre el total de las exportaciones en Brasil y Venezuela, respectivamente, la proporción es en todos los casos elevada. En definitiva, las exportaciones materias primas tienen un peso importante para el tamaño de las economías de América Latina, pero más relevante aún es su peso dentro del sector exportador: la de materias primas es una importante industria de exportación, en América Latina, y el incremento en los precios de las materias primas ha aumentado tanto el valor de estas exportaciones, como su peso dentro del total de exportaciones.

1. En el caso de Argentina parte de las fluctuaciones se deben a fluctuaciones en el PIB. Posteriormente se recoge el grado en que el país se ha beneficiado de los elevados precios de las materias primas.

Un aspecto adicional a tener en cuenta es la concentración de las exportaciones de materias primas. En efecto, ¿exportan los países una única materia prima, o bien tienen diversificadas sus exportaciones de materias primas? En esta dimensión existen importantes disparidades. Por un lado, las exportaciones de petróleo suponen más del 90% de las exportaciones de bienes de Venezuela, y sin llegar a este extremo de dependencia, hay otros países con una concentración importante de sus exportaciones de materias primas . En el caso de Chile, las exportaciones de cobre y mineral de cobre suman cerca del 60% de sus exportaciones de bienes y las exportaciones de petróleo crudo y minerales bituminosos suman un 30% de las exportaciones de bienes de Colombia. Frente a estos casos se encuentra el caso de Brasil, que presenta una mayor diversificación en términos de materias primas que exporta.

La mayor o menor concentración de las exportaciones de materias primas contribuye a explicar las diferentes evoluciones de la relación real de intercambio (cociente entre precios de exportaciones y de importaciones). Así, las economías con mayor concentración en un producto de exportación, como son Venezuela, Chile o Perú, han disfrutado de mayores mejoras en la relación real de intercambio entre los años 2001 y principios de 2008, lo cual les expone, de igual manera, a una reversión acusada de la misma. En definitiva, si bien existe cierta endogeneidad (en tanto que la concentración se está midiendo en valor, y no a precios constantes), puede afirmarse que existe una relación entre mejora en la relación real de intercambio y concentración en un sector productivo. Esto no hace sino recoger el hecho de que resulta más probable que las economías más grandes y más diversificadas se vean menos afectadas, para lo bueno y para lo malo, de las fluctuaciones en los precios internacionales.

Teniendo en cuenta todos estos elementos, puede concluirse que, pese a la caracterización habitual, comparado con otros países de la región, las exportaciones de Brasil dependen relativamente poco de las materias primas y la concentración de sus exportaciones en pocos productos es baja, mientras que la dependencia en pocos productos es muy elevada en Chile, Perú o Venezuela.

Finalmente, debe mencionarse que no sólo son importantes las materias primas para América Latina, sino que también América Latina es importante para estas. En efecto, tal y como pone de relieve la tabla 1, la región tiene una participación importante en el mercado mundial de ciertas materias primas clave, con el añadido de que, además, estas materias primas se concentran a su vez en unos pocos de los países de la zona, como ocurre con el cobre o con los minerales de metales básicos, que provienen principalmente de Chile y Perú.

3. Análisis normativo

El extraordinario aumento del precio de las materias primas es, en muchos países de América Latina, una mejora en la relación real de intercambio, que ha supuesto un fuerte aumento del valor de las exportaciones, y de igual manera, un importante incremento sobre los ingresos públicos. Esta última circunstancia se explica en gran medida porque en gran número de estos países, el sector público tiene un papel relevante en la gestión del sector de las materias primas -por la propiedad pública o semi-pública de las empresas extractoras y exportadoras-.

El aumento en los ingresos derivado del incremento en los precios de las materias primas puede gestionarse de muy diversas maneras, comprendidas entre los casos

extremos de un ahorro o un gasto íntegro de estos recursos adicionales, gestiones que tienen implicaciones muy distintas -a su vez, es evidente que las implicaciones son distintas si el gasto se hace en forma de gasto corriente, o en forma de inversión pública-.

La literatura sobre reciclaje de ingresos del petróleo ha acuñado dos términos para aludir a los dos canales a través de los cuales puede producirse el reciclaje de los ingresos: el canal comercial y el canal financiero. El canal comercial opera cuando los ingresos se traducen en aumento de gasto, mientras que un canal financiero opera cuando se produce el ahorro de los ingresos adicionales. Ambos canales funcionan, de igual manera, en el reciclaje de los ingresos ligados a la producción y exportación de materias primas. Una circunstancia que determina en gran medida si, desde un punto de vista normativo, resulta más o menos adecuado el ahorro o el gasto de los ingresos derivados de la extracción de recursos naturales, es si dicho aumento se percibe como transitorio o permanente.

Cuando el aumento en el precio de las materias primas es percibido como transitorio, resultan adecuadas las medidas orientadas a la suavización de los saldos fiscales -como la constitución de un fondo de estabilización fiscal, que acumule recursos para los períodos de precios bajos-, produciéndose, en este caso, el reciclaje de los recursos a través del canal financiero. En efecto, si se considera que el aumento en ingresos es transitorio, la expansión del gasto en paralelo al aumento paralelo de los ingresos es una política que plantea problemas de sostenibilidad fiscal a medio y largo plazo, por la rigidez del gasto a la baja, que hace probable la emergencia de un déficit fiscal cuando aquella fuente de ingresos se reduce. Además, la expansión fiscal genera presiones inflacionistas y aprecia el tipo de cambio nominal, al aumentar las importaciones y al producirse el reciclaje a través del canal comercial. Ambas circunstancias generan una apreciación del tipo de cambio real, pero no del tipo de cambio real de equilibrio (dada la transitoriedad de la mejora en la relación real de intercambio). La apreciación del tipo de cambio real tendería a perjudicar a otros sectores productivos, y generar lo que es conocido en la literatura como "enfermedad holandesa" –la concentración de la actividad económica en los sectores más relacionados con el incremento en los precios de exportación y la desindustrialización del resto de sectores, por pérdida de competitividad de estos-[2]. La valoración es distinta, si el aumento en los ingresos es empleado para aumentar la inversión pública (y no el gasto corriente), se puede contribuir, por ejemplo, a la mejora de la capacidad extractiva, o a la diversificación de la economía, por lo que parte de los problemas se mitigan (en concreto, los de la emergencia de presiones inflacionistas, por el aumento de la capacidad productiva).

En definitiva, tanto la suavización de los saldos fiscales a lo largo del ciclo de los precios de las materias primas, como la contribución al control de la inflación, o la suavización del tipo de cambio, avalan la adecuación de llevar a cabo una política fiscal contracíclica, cuando se percibe la transitoriedad del incremento de los precios de las materias primas. Parte del ahorro puede realizarse mediante reglas fiscales diseñadas con el objeto de llevar a cabo una política fiscal contra cíclica, estableciendo un precio objetivo para el precio de la materia prima, de forma que los ingresos que se obtienen cuando el precio de mercado excede ese precio objetivo se dotaran a un fondo de estabilización, al cual se recurriría cuando el precio de mercado caiga por debajo del precio objetivo. Cuando, por el contrario, el au-

2. El término de enfermedad holandesa ("Dutch disease") se refiere a los perjuicios sufridos por los sectores manufactureros en Holanda tras el descubrimiento de recursos naturales. Véase Oomes y Kalcheva (2007).

mento de precios se percibe como permanente, resultaría adecuado distribuir los beneficios mediante un aumento del gasto y de la inversión pública, en línea con lo mencionado en arriba. En ese caso, además, el aumento de los precios de materias primas constituiría una mejora permanente en la relación real de intercambio y un tipo de cambio real de equilibrio más apreciado, que podría ser ajustado mediante un aumento del gasto público.

No obstante, desde un punto de vista normativo, el modo en que se gestionen los ingresos públicos no sólo debe tener en cuenta las implicaciones macroeconómicas, sino también consideraciones de equidad intergeneracional, y cuestiones relativas a lo deseable o no del patrón de crecimiento con una gran concentración en un sector con recursos limitados. En efecto, en caso de una elevada dependencia de materias primas con recursos finitos, resulta conveniente que al menos una parte de los ingresos se empleen en lograr una mayor diversificación de la economía. A su vez, como se ha expuesto previamente, esta diversificación puede verse comprometida si la expansión fiscal conduce a una apreciación del tipo de cambio real, con la consiguiente pérdida de competitividad de los sectores no relacionados con la explotación de materias primas finitas. Por otra parte, las consideraciones de equidad intergeneracional hacen conveniente que al menos parte de los recursos debieran ser ahorrados con objeto de extender los beneficios de la extracción de las materias primas a generaciones futuras. En suma, tanto las consideraciones de equidad intergeneracional como los riesgos de la excesiva concentración de la economía en un sector con recursos finitos, en un horizonte de medio o largo plazo, sugieren que es adecuado al menos un cierto ahorro de recursos que, a su vez, pueden emplearse para incentivar una mayor diversificación de la economía.

En consecuencia, resulta de gran importancia determinar si el incremento reciente del precio de las materias primas ha tenido una componente permanente, existiendo dos posibles lecturas de este fenómeno. La visión “maltusiana” enfatiza que la tierra tiene recursos limitados y no es posible que el patrón de vida occidental sea compartido por una población creciente, y avala que el aumento de los precios de las materias primas tiene un componente permanente. La segunda lectura es optimista, y estima que, tan pronto como el ingenio humano reaccione, descubrirá el modo de aumentar la eficiencia en la producción de materias primas, y el incremento en el precio de estas habría tenido un importante componte de transitoriedad. Las implicaciones son radicalmente distintas: en el primer caso, la fuente de riqueza seguirá siendo el sector terciario y no habrá, o no debería esperarse, un cambio en los precios relativos de las manufacturas versus materias primas; en el segundo caso, la nueva fuente de riqueza será la más antigua: las materias primas. En el primer caso, las economías con mayor peso de las materias primas deberían haber ahorrado recursos, en un contexto de precios atípicamente elevados de materias primas, tanto más cuanto mayor fuera su dependencia, y en caso de que las materias primas fueran finitas. En el segundo caso, la necesidad de una política fiscal conservadora sería menor.

Los países que optan bien por ahorrar parte de los ingresos, bien por percibir el aumento de los precios de materias primas como transitorio, bien por ahorrar recursos para generaciones futuras, o para evitar la dependencia de los ingresos de un determinado sector, suelen optar por constituir fondos de estabilización fiscal o fondos de ahorro. Ambos fondos suelen recibir el común denominador de fondos de riqueza soberana, término que engloba tanto a este tipo de fondo, como a otros fondos de inversión de titularidad pública, de otro origen. La existencia de fondos de riqueza soberana, en forma de fondos de estabilización fiscal,

fondos de riqueza intergeneracional, o fondos de pensiones, no es nueva, datando muchos de ellos (como el fondo de Noruega, de Emiratos Árabes Unidos, Kuwait, o el Fondo de Compensación para los Ingresos del Cobre en Chile) de hace varias décadas. No obstante, el protagonismo de los fondos de riqueza en el panorama internacional se ha incrementado paulatinamente, como consecuencia del importante aumento en su número, y del volumen de activos que gestionan, así como consecuencia de su elevada concentración en economías emergentes. Se estima que el volumen de los activos que manejan ha crecido de manera muy importante en los últimos años, y se estima se sitúa ya en más de 2.500 miles de millones de dólares, y su crecimiento está ligado a los precios de las materias primas, y en particular los precios del petróleo.

4. Reacción de los países de América Latina e implicaciones

Chile es un caso de gran interés dentro de los países de América Latina, por aspectos como la importancia del sector de cobre para la economía real o por la estrecha conexión entre precio del cobre e ingresos públicos.

En efecto, las exportaciones de cobre suponen un 57% del total de las exportaciones de Chile, y su peso en la economía asciende al 34% del PIB. Desde 2002 se comenzó a registrar un extraordinario incremento en el precio del cobre, que generó un fuerte aumento de las exportaciones y de los ingresos de la empresa pública CODELCO (Corporación Nacional del Cobre). La respuesta a este fuerte incremento en el precio del cobre, y el subsiguiente aumento en los ingresos, se ha basado en el ahorro contracíclico de recursos, mediante el establecimiento de un fondo de riqueza soberana, en forma de fondo de estabilización de ingresos.

En 2000 Chile adoptó una regla fiscal estructural, en parte motivada por el objetivo de aislar las cuentas fiscales de la volatilidad del precio del cobre. El sistema que implantó Chile tenía dos objetivos. El primero era el de establecer un mecanismo contracíclico para aislar las cuentas públicas del precio del cobre (y, además, de las oscilaciones cíclicas del crecimiento). El segundo era el de acumular superávit fiscales en exceso de los necesarios para suavizar el ciclo económico, con objeto de acumular recursos para recapitalizar el banco central, y aumentar los recursos para el fondo de pensiones. El diseño de la regla fiscal hacía depender el ahorro contracíclico del ingreso estructural, que a su vez dependía de un precio de equilibrio del cobre, y del crecimiento potencial, de manera que se ahorraran recursos cuando los precios del cobre y/o el crecimiento potencial fueran superiores a sus valores de equilibrio, y se desahorraran en caso contrario. A este ahorro contracíclico se añadía el ahorro estructural, ya mencionado. Uno de los aspectos claves para determinar los ingresos estructurales es el precio de equilibrio del cobre, dado que cuanto más bajo sea el precio del cobre de equilibrio, menores serán los ingresos estructurales, y en consecuencia, mayor la desviación del precio de mercado del cobre con respecto a su valor de equilibrio, y mayor el ahorro contracíclico de recursos. El precio de equilibrio del cobre es consultado por el Ministerio de Hacienda a un grupo de expertos, que facilitan una previsión del precio del cobre para los siguientes diez años, considerándose la media aritmética de esta predicción el precio de equilibrio. En general, el precio de equilibrio del cobre ha

aumentado poco, pese al extraordinario incremento del precio observado en este precio en los mercados, lo que pone de relieve que, de manera implícita, se estaba considerando este aumento como transitorio.

Los recursos ahorrados con carácter contracíclico eran depositados en el Fondo de Compensación para los Ingresos del Cobre, que existía desde 1987. En 2005 y 2006 creció en más de 700 y 1.600 millones de dólares respectivamente, hasta pasar a gestionar activos por más de 2.560 millones de dólares. En marzo de 2007 se estableció el Fondo de Estabilización Económica y Social (FEES), nacido como un fondo de estabilización fiscal, y que tenía por objetivo ahorrar recursos en épocas de elevados ingresos, para permitir mantener el gasto en épocas en que los ingresos caen. Este fondo recibió inicialmente 6.000 millones de dólares -de los cuales 2.540 millones correspondían a activos del Fondo de Compensación para los Ingresos del Cobre, que desapareció-, y otros 7.100 millones de dólares a lo largo del resto del año 2007, de manera que los aportes en el conjunto de este año ascendieron a más de 13.100 millones de dólares. Por otra parte, en diciembre de 2006 se estableció el Fondo de Reservas de Pensiones (FRP), que tenía por objeto complementar los recursos de los fondos de pensiones de Chile, realizando dotaciones entre un 0.2% y un 0.5% del PIB, con independencia de la situación fiscal del país. En suma: el FEES recibe la totalidad del superávit fiscal efectivo, tras haber deducido previamente los aportes al FRP, y habiendo fijado el gasto público teniendo en cuenta los ingresos estructurales, y no los cíclicos; el FRP no era un instrumento diseñado para suavizar el impacto del precio del cobre sobre las cuentas públicas. Los recursos aportados al FEES y el FRP hasta agosto de 2008 ascendían a 18.100 millones de dólares y 2.250 millones, respectivamente.

Otro rasgo característico del FEES es que sus recursos eran invertidos de manera íntegra en mercados exteriores, de los cuales el grueso se invertían en US$, seguidos de inversiones en euros, y en yenes japoneses. Esta política de inversión no tiene como consecuencia sólo la suavización de los ingresos fiscales, sino también la del tipo de cambio. En efecto, el Banco Central de Chile ha mantenido tradicionalmente una política de no intervención en el mercado de cambios, política diferente de la del resto de países de la región. En consecuencia, en caso de que el FEES no invirtiera sus recursos en mercados extranjeros, la fuerte demanda de pesos chilenos derivada del elevado superávit de cuenta corriente habría generado una fuerte apreciación del tipo de cambio nominal. Sin embargo, la política de inversión del FEES generaba importantes salidas de flujos financieros, que aumentaban la oferta de pesos y cubrían la demanda de pesos por dólares derivada del buen comportamiento de las exportaciones. En definitiva, el FEES ha actuado, por su diseño, no sólo como un instrumento de política fiscal contracíclica, sino también como un instrumento de suavización del tipo de cambio.

Esta respuesta ha resultado coherente con el diagnóstico de que el aumento del precio del cobre tenía una componente transitoria, ya que no sólo ha aislado las cuentas públicas, sino que ha evitado una apreciación que habría perjudicado a sectores no beneficiados por el aumento del precio de las materias primas, aumentando el riesgo de experimentar una "enfermedad holandesa". No obstante, la diferencia entre un fondo de estabilización y un fondo de ahorro no es, en la práctica, nítida. Como se ha expuesto, el diseño del FEES no contempla, aparentemente, consideraciones de equidad intergeneracional, o la de ahorro de recursos de la extracción de un recurso finito, como es el cobre, y teóricamente se trata de un fondo de suavización fiscal. Sin embargo, el FEES podría tener, al menos en parte,

y de manera encubierta, características de fondo de ahorro. Este sería el caso si el precio de equilibrio del cobre fuera fijado de manera deliberada o conscientemente baja, dado que en este caso se esperaría que, a lo largo del ciclo, los recursos ahorrados fueran superiores a los gastados. Por otra parte, en Chile existe ya un fondo de ahorro explícito (el FRP), de manera que es plausible, de igual manera, que el FEES sea un fondo de estabilización fiscal, en sentido estricto.

¿Qué cabría esperar que sucediera en épocas en que el precio del cobre cayera por debajo del precio de equilibrio? En este caso, la regla fiscal debiera determinar unos ingresos estructurales mayores a los ingresos observados, y se debería observar desahorro de recursos, mediante la venta de activos en el extranjero. La venta de activos en el extranjero y su conversión en moneda local supondría una repatriación de capitales, y por lo tanto tendería a mitigar de manera automática las previsibles tendencias a la depreciación del peso chileno[3].

En definitiva, la gestión del reciente ciclo de elevados precios del cobre por parte de las autoridades de Chile se ha fundado en la percepción de que dichos precios tenían una componente transitoria. Esta circunstancia ha llevado al ahorro de elevados recursos en el exterior del país, que han permitido la suavización de los ingresos fiscales, han facilitado la conducción de la política monetaria, y han permitido la estabilidad del tipo de cambio, evitando la pérdida de competitividad de sectores no relacionados con las materias primas.

3. En todo caso, reservas internacionales y activos externos del sector público (en el caso de Chile, los del FEES), no son sustitutos.

5. Conclusiones

La bonanza que ha disfrutado América Latina, como consecuencia de los incrementos en los precios de materias primas, ha resultado evidente. Esto oscurece el hecho, no obstante, de que algunas materias primas, como cobre, petróleo o soja, han registrado incrementos inéditos, mientras que otros productos agrícolas simplemente se han recuperado de la depresión de sus precios. Existen dudas, en todo caso, si los cambios en precios han tenido más componente transitoria o permanente. El análisis normativo del fenómeno sugiere que una respuesta prudente por parte de las autoridades de la región debiera suavizar los ingresos fiscales, modulando la respuesta en función de consideraciones de equidad intergeneracional o de sostenibilidad del modelo de crecimiento.

En todo caso, con independencia de las fluctuaciones en los precios, el sencillo análisis realizado sugiere que el impacto directo de una eventual corrección de los precios será más moderado en las economías más grandes y más diversificadas.

Y que, transitorio o permanente, interpretación maltusiana o positiva, esta bonanza ha significado una oportunidad para los países de esta región. Chile constituye un buen ejemplo de una respuesta responsable a un incremento en el precio de un importante producto de exportación, cuando se percibe como transitorio, y este recurso es finito. Será en caso de una corrección de los precios de las materias primas, y una reversión de las ganancias en la relación real de intercambio, cuando los esfuerzos realizados en el periodo de bonanza, queden de manifiesto, mitigando los desarrollos adversos. Si los precios se mantienen elevados, será momento de pensar cómo emplearlos para diversificar la economía y extender los elevados beneficios de la producción del cobre al conjunto de la sociedad, y a generaciones futuras.

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The Financing of FDI In Latin America*

AREA: 2
TYPE: Specific Cases

La financiación de la IDE en Latinoamérica
O financiamento do IED na América Latina

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Foreign direct investment (FDI) is often seen as a major source of financing for emerging markets in recent years. It is certainly true that FDI provides very important financing for such countries, but the actual financing may be very different from how it is portrayed. For example, about half of FDI flows each year are made up of retained earnings of existing affiliates, rather than new funds inflows. And the financing for other FDI flows may come from local as well as foreign sources. The funds themselves may not even get to the host country. In sum, it is important to understand the financial aspects of FDI, for both policy and strategy reasons, even while the phenomenon itself is primarily a question of the transfer ownership and control of companies to foreign firms.

En los últimos años, la inversión directa en el exterior (IDE) muchas veces se ha visto como una fuente importante de financiación para los mercados emergentes. Es cierto que la IDE proporciona una financiación importante para estos países, pero la financiación real cambia enormemente en función del punto de vista. Por ejemplo, aproximadamente la mitad de los flujos anuales de IDE están formados por ganancias retenidas de afiliados existentes, y no de nuevas aportaciones de fondos. La financiación de otros flujos de IDE pueden provenir de fuentes locales o extranjeras. Los fondos pueden ni llegar al país de acogida. En resumen, es importante comprender los aspectos financieros de la IDE, tanto por motivos políticos como de estrategia, incluso si el fenómeno en sí es fundamentalmente una cuestión de transferencia de propiedad y control de empresas a empresas extranjeras.

O investimento estrangeiro directo (IED) é muitas vezes encarado como uma fonte importante de financiamento para os mercados emergentes nos últimos anos. É certamente verdade que o IED faculta financiamento muito importante para esses países, mas o financiamento real pode ser muito diferente do modo como é retratado. Por exemplo, cerca de metade dos fluxos de IED em cada ano são constituídos por rendimentos retidos de filiais existentes, e não de afluxos de novos fundos. E o financiamento de outros fluxos de IED pode vir tanto de fontes locais como estrangeiras. Os fundos propriamente ditos podem nem mesmo chegar ao país de acolhimento. Em suma, é importante compreender os aspectos financeiros do IED, tanto por razões políticas como de estratégia, mesmo quando o fenómeno em si é antes de mais uma questão de transferência de propriedade e de controlo das companhias para firmas estrangeiras.

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1. The Financing of FDI in Latin America

Foreign direct investment (FDI) has been heralded in recent years as the solution to emerging markets' needs for financial capital, since it is not nearly as volatile as portfolio investment flows or as bank lending, each of which dried up during the Latin American debt crisis of the 1980s, the Tequila Crisis in 1994-5, the Asian Crisis of 1997-8, the Argentine crisis in 2001-3, as well as in the current global crisis resulting from the US sub-prime mortgage defaults. FDI indeed is much more stable than the purely financial flows – a quick look at the evidence shown below in Figure 1 does confirm this fact[1]. But FDI is much more than a financial transfer; it is most importantly a change of ownership and control of productive assets.

KEY WORDS

Emerging markets, Foreign direct investment; foreign firms

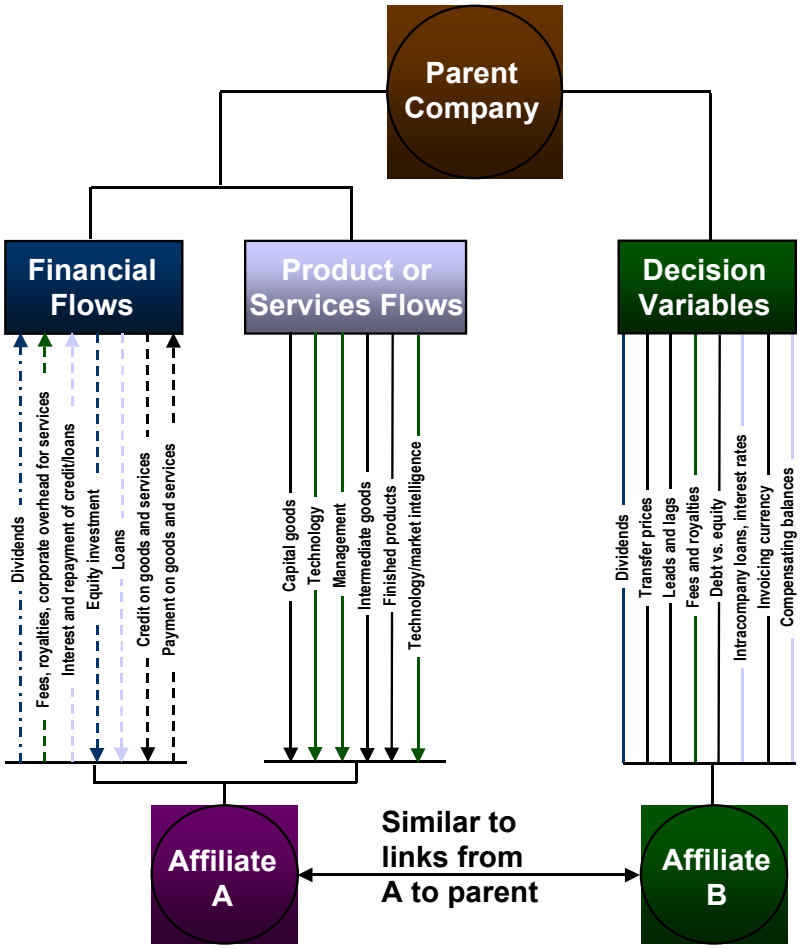
PALABRAS CLAVE

Mercados emergentes, Inversión extranjera directa; empresas extranjeras

PALAVRAS-CHAVE

Mercados emergentes, Investimento estrangeiro directo; empresas estrangeiras

Figure 1: Financial Flows Related to Foreign Direct Investment



JEL CODES

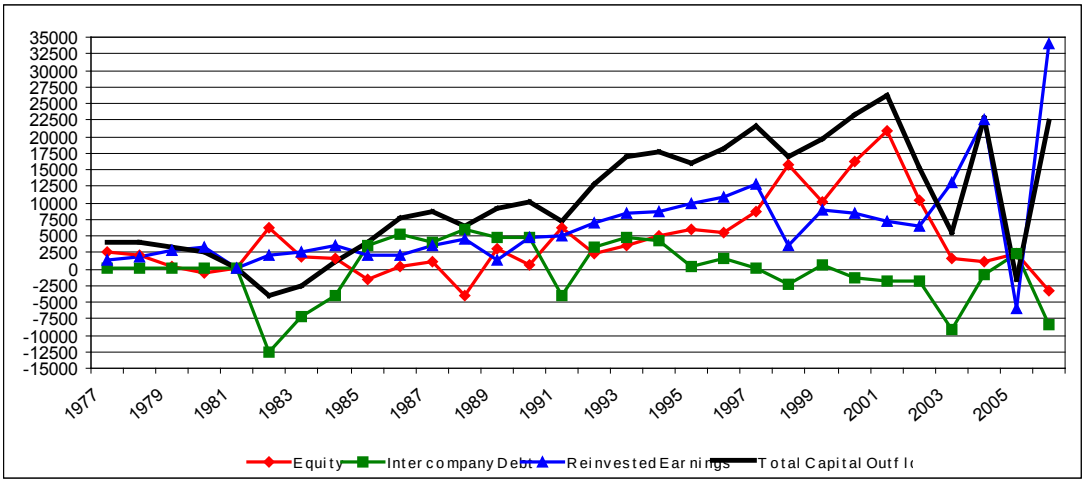
F200; F230; F300

1. A comparison of FDI, bank lending, portfolio investment, and official financing in emerging markets appears each year in the World Bank's Global Development Finance, http://publications.worldbank.org/GDF/. See Appendix Figure A-1.

In fact, we could argue that foreign direct investment is mistakenly viewed as a financial flow, similar to cross-border bank lending or to international bond issue. Seeing FDI as a financial flow is an incorrect perception, since FDI is actually a transfer of ownership and control of a company, which may be financed in many different ways. For example, foreign direct investment in a company owned by local investors in an emerging market may take place by a foreign multinational firm buying the shares of the company and paying the local owners via a wire transfer to a bank in New York. In this way, foreign direct investment in the emerging market occurs, since the company is now owned by the foreign multinational firm, but the financial flow may never get to that emerging market, unless the former company owners decide to transfer some or all of the money to their own country.

The financial impact of FDI is fairly complex. US data show that about half of foreign direct investment in emerging markets is financed from retained earnings of the firms[2]. This implies that the investment is financed by the foreign company itself -- but through earnings generated in the host country. The remainder of the FDI that occurs may be financed by bank borrowing, by new capital invested from the home office, or by other means of obtaining funds, such as bond issuance, local or overseas. Figure 2 portrays this situation, illustrating the lack of direct correspondence between FDI values and financial flows to a host country.

Figure 2: Sources of FDI Increases by US MNEs in Latin America



Values in millions of current US dollars.
Respective "Equity" values already include "Intercompany Debt" values during 1977-81.
SOURCE: U.S. Department of Commerce Web site. "U.S. Direct Investment Abroad."
http://www.bea.doc.gov/bea/di/di1usdbal.htm

Notice that the financial flows cannot even be fully identified in this Figure. For example, the new "Equity" that may be invested in the foreign affiliate can come from the parent company's own funds, or from bank borrowing in the home country or in the host country by the parent firm. Although not common in emerging markets, this means that a parent firm

2. See US Department of Commerce, www.osec.doc.gov, and more specifically http://www.bea.doc.gov/bea/di/di1usdbal.htm.

could actually borrow locally to fund its increase in capital investment in an affiliate. (This is more common for funding FDI that goes into major financial markets such as the US or UK.)

Just as problematic is intercompany debt, which could be funded by bank borrowing that the parent firm undertakes, in the home or host country or elsewhere. When this debt is passed on to the affiliate, it appears to come from the parent. While this is true in a legal sense, the origin of the funds may be a one-off bank loan from any country chosen by the parent firm. The point of this paper is to illuminate the financial flows that are involved with paying for foreign direct investment. The necessary condition for foreign direct investment is for some amount of ownership and some degree of control to be obtained by the foreign company that carries out the investment in a local company, new or existing. There is no necessary cross-border financial flow that must accompany this investment, although typically some amount of funds or other financial value is indeed transferred to the target country where the FDI takes place. While the issue may seem rather insignificant, on the contrary it may demonstrate a major hole in an emerging market country's international financing strategy, since the funding of FDI may come from local sources.

This is all the more important in the early 21st century, when most of worldwide FDI is in the form of acquisitions of existing companies[3]. If foreign direct investors are not setting up new companies, then there should be some concern about what value they are adding to a host country's economy. Since it does turn out that a major part of FDI is funded by MNE resources and not host country resources, the verdict is not a condemnation of MNEs – but the implications for public policy are clearly that host governments should pursue policies that optimize the foreign sourcing of funds for FDI, thus raising the financial spillover of the investment into the host economy.

2. A Careful Dissection of FDI Flows

Foreign direct investment is the purchase of controlling ownership in a company in one country by a company in another country. This simple definition does not capture all of the nuances of FDI that one may wish to explore, but for our financial purposes it is adequate. The purchase of controlling ownership[4] may take place through creation of a new company (i.e., greenfield investment), through the acquisition of an existing company from its previous owners, or through some intermediate step such as formation of a joint venture with a local or a second foreign firm.

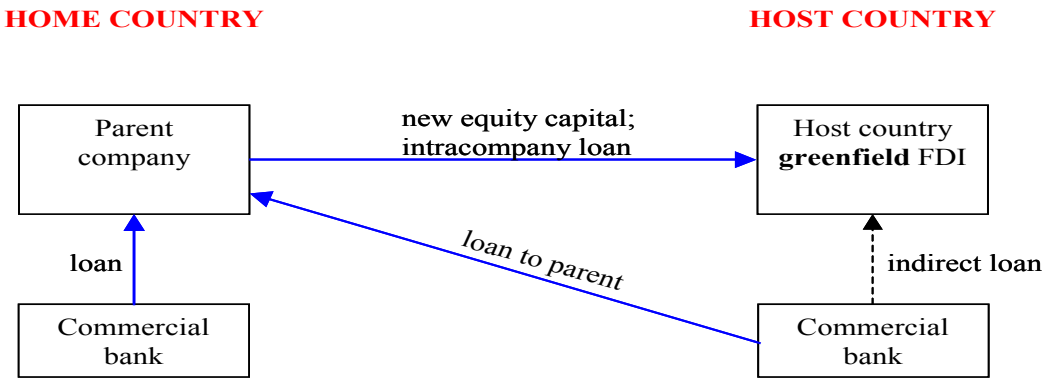
The funds flows associated with this investment may cross national borders or not, depending on the situation. A greenfield investment generally is financed through a transfer of funds in from the home country or from a financial center, although this is not a necessary

3. See, for example, UNCTAD's World Investment Report 2000, which focuses specifically on the issue of cross-border mergers and acquisitions. http://www.unctad.org/Templates/WebFlyer.asp?intItemID=2435&lang=1

4. The purchase of controlling ownership may imply anywhere from a tiny percentage such as 10 percent, all the way up to 100 percent. For statistical purposes, the US Department of Commerce uses the 10 percent figure to classify investment as FDI (if the percentage is 10 percent or higher) or portfolio (if the percentage of ownership is less than 10%.) Conceptually, we are interested in investment that brings the foreign direct investor some degree of control, shared or complete, over the affiliate.

condition. Nevertheless, if the firm does not already have activities in the target country, it is likely that funding will be brought in from elsewhere for the greenfield investment. This simple situation may be complicated when the company has an existing presence in the host country, for example an existing subsidiary in another business or another location within the country. Then it may be decided to use locally-obtained bank financing, or retained earnings from the other affiliate, to undertake the greenfield investment. Figure 3a depicts this situation.

Figure 3a: Alternative Financing Methods for Greenfield FDI

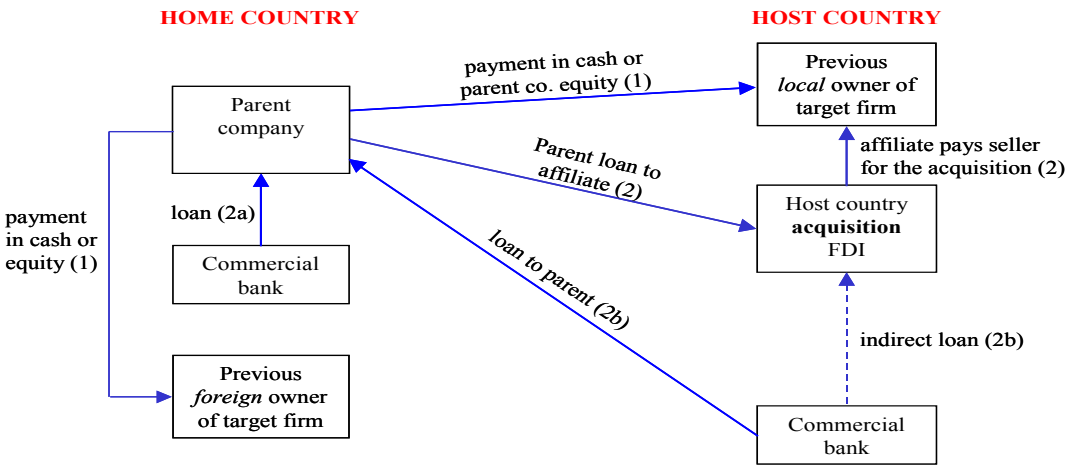


At the other extreme of the investment spectrum, the FDI may be an acquisition of an existing firm. If the existing firm is a local firm, then the FDI may replace local owners with foreign owners. The local owners may be paid in stock shares of the foreign company, and may never bring any of the payment into the host country (other than the shares themselves). The local owners may be paid in cash, which they deposit in an overseas bank account, once again never necessarily bringing any of the funds back to the host country. Or the local owners may be paid in some financial instrument that they do bring back to the host country, and which thus does constitute a financial inflow.

If the acquisition involves one foreign company buying a local affiliate from another foreign company, then the likelihood of funds flowing to the host country is much smaller. The foreign seller may just receive funds or shares in the buyer, or some other security that it accepts as payment, and no new funding may ever enter the host country. This is clearly the least financially attractive kind of FDI from the host country perspective, but it is growing in significance as a type of FDI in the 21st century. According to the United Nations Division of Transnational Corporations, acquisitions accounted for approximately 60% of FDI in Latin America in during the decade 1990-1999[5]. The financing of acquisition FDI is depicted in Figure 3b

5. The percentage of acquisitions in total FDI is far higher in industrial countries, exceeding 90% for the decade.

Figure 3b: Alternative Financing Methods for Acquisition FDI



3. Four Large FDI Examples in Latin America

Some of the interesting and perhaps surprising financial aspects of foreign direct investment in Latin America can be illustrated with specific examples. This section presents four such examples, ranging from an investment that brought 100% of the value into the host country, to another investment in which all of the funds remained offshore. (An FDI project in which one foreign owner buys out another existing foreign owner of a subsidiary technically does not qualify as 'new' FDI, but it is often discussed and presented as if it were an addition to FDI in the host country.)

3.1. Citibank's Acquisition of Banamex (Banacci) in Mexico ($US 12.5 billion)

A very visible foreign direct investment took place in Mexico in 2001, when Citibank purchased Mexico's largest bank, Banamex, and its other financial group divisions including the stockbroker, Acciones y Valores. This total investment was for $US 12.5 billion. It followed a string of foreign bank acquisitions of almost all of Mexico's commercial banks, leaving multinational banks such as Citibank, Banco Santander, HSBC, and BBVA as the largest banks in the country. These various acquisitions of existing Mexican banks were financed in several ways; our discussion here just focuses on the Citibank example.

Citibank already had a major presence in Mexican commercial banking, with its own (limited) branches and clients built up since 1929. In 1998 Citibank acquired a mid-sized Mexican bank, Confia, toward the end of the period of the Tequila Crisis that pushed all of Mexico's domestic banks toward or into bankruptcy. The acquisition of Banamex then put Citibank into a position of leadership in the entire market, with only BBVA (which had acquired Bancomer) in the same size category. Between them, Banamex and Bancomer hold about half

of Mexico's financial sector assets and liabilities.

The acquisition of Banamex was financed by a payment of $US 6.25 billion in cash to Banacci shareholders, and issue of $US 6.25 billion in shares of Citigroup to those same shareholders. This means that Citigroup paid $US 6.25 billion in cash to the shareholders of Banacci, those shareholders presumably being mostly Mexican investors, so that the funds went largely to Mexico. The new shares that were distributed to those shareholders also presumably went to Mexico, obviously not as cash, but rather as ownership of shares in the foreign institution, Citigroup[6]. In this situation, most of the financial value of the acquisition was indeed transferred to the host/recipient country[7].

3.2. Telefonica's (Spain) Acquisition of Pegaso PCS in Mexico ($US 884 million)

The telephone company, Telefónica, was one of the first major Spanish firms to launch the 'reconquest' of Latin America, this time by corporations rather than by a political empire. From the end of the 1980s, Telefónica acquired controlling interests in fixed-line and mobile telephone operators throughout Latin America. In 1989, it purchased control of Entel, the national phone company in Chile, and the following year bought controlling ownership in half of the Argentine fixed-line phone company as well. Further acquisitions occurred in Venezuela, Peru, Brazil, and elsewhere, such that Telefónica now has the largest network of telephone operating companies in Latin America.

In 2002 Telefónica, acquired 65% of the shares of Mexican mobile phone company, Pegaso PCS, from a consortium of international investors, including Citibank, Sprint, Leap Wireless, and AIG. This step put Telefónica into second place among mobile phone companies in Mexico, behind Carlos Slim's Telmex, with about 2.5 million customers relative to Telmex's 25 million mobile customers.

The acquisition was paid as $US 70.5 million in cash to the US-based shareholders, plus assumption of approximately $US 810 million in Pegaso's debt. This gave Telefónica 65% of the total shares of Pegaso. The Burillo Group, headed by Alejandro Burillo Azcarraga, the founder of Pegaso, kept its 35% stake in the firm[8]. Telefónica had entered Mexico in 2001, by purchasing four wireless companies from Motorola for US $ 1.8 billion[9]. The transaction described here involved one foreign multinational firm buying out another, with no new financial flows into the host country, except perhaps for post-acquisition investments by the acquirer, Telefónica[10].

3.3. SAB Miller's acquisition of Bavaria in Colombia ($US 7.8 billion)

SABMiller (the merger of South African

6. http://www.citigroup.com/citigroup/press/2001/010517a.htm

7. A similar transaction occurred when HongKong Bank (HSBC) acquired Banistmo, based in Panama, in 2006. This $US 1.77 billion transaction included branches of Banistmo in six Central American countries. The all-cash payment went to the shareholders of Banistmo in Panama. See: http://www.hsbc.com/1/2/newsroom/news/news-archive-2006/hsbc-to-expand-into-central-america-by-acquiring-group-banistmo

8. See, Ayres, Chris, "WIRELESS COMPANY IS CONSOLATION PRIZE", Financial Times Acquisitions Monthly (April 19, 2002).

9. That transaction brought no new funding into Mexico, since it led to the Spanish company Telefónica paying the US-based Motorola for the acquisition.

10. This example is paralleled by a number of others, such as the 2006 purchase by Telmex of Verizon's telephone operations in the Dominican Republic, Puerto Rico, and Venezuela. This $US 3.7 billion acquisition did not bring any new funds into those markets, because one multinational firm (Telmex) just bought out the interest of another (Verizon) in each instance. See: http://search.ft.com/ftArticle?queryText=%22Telefonos+de+Mexico+SA+de+CV%22&page=4&id=060403007556&ct=0&nclick_check=1

Breweries and US-based Miller), ranks second globally behind InBev (the merger of Brazil's Ambev and Belgium's Interbrew) and ahead of Heineken in beer brewing. To begin building a major business in Latin America, SABMiller bought 71.8% of Colombian brewer, Bavaria, in 2005. This purchase was made from majority shareholder Grupo Santo Domingo, Colombia's largest conglomerate.

The acquisition included issue of $US 3.5 billion in shares of SABMiller to Grupo Santo Domingo, along with two seats on the executive board of SABMiller. Santo Domingo owned 15.1 % of SABMiller shares as a result of the transaction. SABMiller also paid $US 2.4 billion in cash to minority shareholders of Bavaria affiliates in Peru and Colombia, and assumed $US 1.9 billion in Bavaria's outstanding debt. The total transaction cost SABMiller $US 7.8 billion, once the additional shareholders in Bavaria were bought out.

This transaction led to shares in SABMiller going to the Colombian group, plus payments of cash to shareholders in Colombia and Peru, and agreement to pay debts of Bavaria in the future – presumably out of Bavaria's future earnings. So, a maximum of $US 2.4 billion of cash went to shareholders in Colombia and in Peru, while another $US 3.5 billion of shares went to Colombia to the Grupo Santo Domingo. Assumption of the existing debt did not give rise to any funds transfer at the time of the acquisition.

3.4. Anglo American's Acquisition of La Disputada Copper Mine in Chile ($US 1.42 billion)

As a result of its decision to exit non-energy businesses, Exxon-Mobil announced a decision to sell its La Disputada copper mine in Chile during 2001. The process took more than a year, and ultimately the South African firm, Anglo American Corp., purchased the mining property for $US 1.3 billion, plus the right to up to $US 120 million of additional payment depending on possible increases in the price of copper. Exxon had purchased the mine in 1978, as part of its diversification strategy into non-energy minerals and metals at that time.

The acquisition by Anglo American was paid in cash, which the firm raised through existing bank lines of credit and from internal funds. The payment was made to Exxon-Mobil outside of Chile, resulting in no cash inflow to Chile from the transaction. (Chile's government did receive a tax payment on the transaction, due to the appreciation of the company's value since Exxon's original purchase, resulting in an inflow of $US 40 million.) Thus, this transaction was essentially the trading of an asset (the copper mine) between two foreign investors, with no new foreign direct investment involved[11].

With the global growth in demand for natural resources of the early 2000s, a number of other mining acquisitions have taken place in recent years in Latin America. In 2007, for example, China Aluminum Company (Chinalco) bought out the Peruvian copper holdings of Canadian firm Peru Copper Corporation, with payment in cash of $US 792 million to the Canadian parent firm. None of these funds went to the target country, Peru[12].

11. See, Johannesburg Stock Exchange, "Anglo American completes acquisition of Disputada", announcement (November 14, 2002). Document jsexch0020021114dybe000ru.

12. See: http://www.forbes.com/2007/06/11/peru-copper-chinalco-markets-equity-cx_af_0611markets10.html

4. A Case Study: FDI in Argentina in the Late 1990s and Early 2000s

Argentina's experience exemplifies that of Latin American countries in general in the last few years. FDI entered the region in large and growing amounts almost everywhere since the beginning of the 1990s. Particularly important in the FDI flows were privatizations and reshuffling of ownership of state-owned enterprises, especially in the electric power, telephone, and other public utility sectors. In Argentina, the national telephone system was sold in two large pieces to consortia including foreign investors (to Telefónica of Spain with partners Bell South, Motorola and Clarín; and to Telecom France with partners STET, JP Morgan and Perez Companq). The electric power generation and distribution systems were sold to various foreign investors, typically with local partners, including major economic groups such as Perez Companq and Clarín.

One very interesting and very visible privatization was that of YPF, the national oil company. The initial privatization was carried out in July of 1993, when YPF was sold in an initial public offering to literally thousands of investors in the open market. The government hired and installed a team of managers who took YPF through a huge and painful restructuring of its business and then the public sale of the company. Once YPF began to operate in the private sector as a listed company, it continued to sell the remaining government shares over time. The privatization itself was not an example of FDI, since foreign investors only purchased small percentages of YPF shares or depositary receipts. However, in 1998, the Spanish oil company, Repsol, decided to purchase control of YPF, and did so by buying 14.99% of YPF shares from the government's remaining 20% stake, so that Repsol obtained controlling interest in YPF at that time for a price of $US 2.01 billion[13].

In mid-1999 Repsol raised its stake in YPF to 97.5%, by making a tender offer for all the ADRs in New York and GDRs in London, along with shares in the Buenos Aires stock exchange, that it did not already own. The total cost of this tender was $US 13.1 billion. These share acquisitions were financed by Repsol borrowing through a bridging loan in the euromarket ($US 9 billion), in addition to issuing Eurobonds for a total value of € 5.65 billion (at the time, worth $US 6.27 billion). The bridge loan was retired through the Eurobond issue and a subsequent equity issue of € 5.655 billion in June of 1999[14].

The net result of these purchases made Repsol the owner of almost 98% of total outstanding YPF shares, with only small shareholdings outstanding to investors who failed to participate in the tender offer in 1999. The total foreign direct investment replaced portfolio investment by those investors who had purchased ADRs or GDRs back in 1993, accounting for about 40% of total YPF shares. These investors probably did not reinvest their funds in Argentina once they sold their depositary receipts to Repsol, so no new investment went into Argentina at that time[15]. That is, the investors in New York and London who had originally purchased shares of YPF in the ADR and GDR offerings there chose to sell those shares to Repsol, thus receiving Repsol's cash, but not (necessarily) sending any funds to

13. The transaction was actually completed on January 20, 1999.

14. ABN/AMRO analyst report, "ABN/AMRO Oil & Gas Sector Report", Repsol, 1999. p. 53. Also described in Repsol/YPF Form 20F filed with the US Securities and Exchange Commission, 1999.

15. Of course, the original portfolio investment in the ADRs or GDRs was an international investment, bringing new funds into Argentina to pay for the depositary receipts. Those flows were recorded in 1993, and did not appear subsequently in the 1999 FDI process.

Argentina. All that happened was a change of foreign owners of those shares – but the new foreign owner was a direct investor rather than a portfolio, passive investor. This accounted for approximately $US 10 billion of the total direct investment by Repsol, and thus for no new money coming into the country. The shares that were purchased from shareholders in the Buenos Aires stock exchange (about $US 3 billion of the total) did likely bring new funds into Argentina, assuming that the sellers kept the funds in the country.

The purchase of the government's shareholdings in 1998 did imply direct financial transfers from abroad to Argentina, as Repsol paid the government for those shares and financed the purchase with funds from abroad. This $US 2.01 billion thus was a transfer of funds to Argentina, different from the bulk of the investment.

4.1. Some Additional Argentine Examples

To give a broader picture of FDI into Argentina in the late 1990s and early 2000s, a handful of examples were pursued in more detail through interviews with company executives. They include an energy company with existing business that it built up through an acquisition; a telecom company that entered the market for the first time; a pharmaceuticals company with long experience in Argentina; and a bank that had entered Argentina in the early 1990s.

The energy company entered Argentina long ago, and had used retained earnings to build its FDI in the country over time. When a specific acquisition was undertaken in 2001, the $US 60 million needed to finance this increase in FDI was obtained through bank borrowing. The borrowing was done through a commercial bank loan in the Bahamas, where tax treatment allowed the full interest expense to be realized by the parent as an operating cost, and no interest withholding tax was involved. The borrowing was at a low interest rate in dollars, which also was attractive to the firm. So, in this case, the FDI was financed through foreign bank borrowing, in which a total of $US 60 million was brought into Argentina in the form of a loan payable to that foreign bank in Nassau.

Another case of FDI into Argentina was a telecom company that entered in the mid-1990s, as with most foreign telecom investments in Latin America. The state-owned telephone monopolies were privatized throughout the region during that decade, and additional foreign firms entered as well, especially in the cellular telephone business. In this instance the firm invested more than $US 1 billion to set up its greenfield investment. Approximately half of the funds came from an equity injection and the other half from international bank borrowing by the parent. Thus, the entire investment constituted a capital flow into Argentina. (Parenthetically, the debt financing turned out to be very burdensome, since the affiliate has yet to make a profit, but the interest payments must be made in any event.)

The pharmaceuticals company had a long history in Argentina, operating both formulation plants (that produce final drugs formulated into pills, liquids, powders, etc.) and a local distribution network. The company had acquired several local and foreign firms in Argentina in recent years. Two of these acquisitions were for $US 80 million and $US 50 million. In both cases the parent pharmaceuticals company borrowed the funds from a commercial bank in Nassau and then re-loaned them to the subsidiary in Argentina. Debt service was thus from the Argentine affiliate to the parent, and then on to the bank in Nassau. This funding enabled

the Argentine affiliate to obtain a much lower interest rate than borrowing locally in Argentina, and the parent chose debt rather than equity to carry out the acquisitions.

The commercial bank was one of the several foreign banks that have essentially taken over the Argentine financial system since the early 1990s. It initially invested in Argentina by buying controlling interest in one of the local banks. The foreign bank subsequently, in the late 1990s, bought 80% of one of the largest local commercial banks, in three separate transactions worth a total of about $US 1.4 billion. These transactions were financed approximately half by a foreign bank loan and the other half by issuing new shares of stock in the parent bank. In each case the funds/shares were paid to the local business group that owned the bank.

This direct investment into Argentina demonstrates the common characteristic that it has been done through acquisition of existing firms in the country for the most part. It is also quite indicative of the ways in which FDI was financed in the late 1990s and early 2000s, namely through foreign bank loans, through issue of new equity in the parent firm, through purchase of existing stock shares in the open market, and occasionally through direct internal funding from the parent. The particular projects described above were not simple expansions of existing activities in Argentina, which often were funded through retained earnings, but rather they were new ventures. And finally, it bears repeating that these investments were largely made by companies with existing operations in Argentina; FDI by large companies around the world is much more frequently into countries where they already operate, rather than into new, unexplored markets.

5. Lessons

A key reality concerning FDI into Latin America, and in general in the 2000s, is that it is not greenfield investment in new businesses, but largely it involves acquisitions of existing businesses by foreign investors. Many times the investment is a kind of portfolio adjustment, in which one investor trades an asset (company) with another. For example, one international telephone company decides to expand, while another decides to contract in a particular country, so the first one acquires the business of the second one. And as a result of this ownership-shifting, it turns out that frequently little or no new funding comes to the country in which the FDI takes place. The table below summarizes the examples presented in the text above.

Table 1: Some Major FDI Projects in Latin America in Recent Years

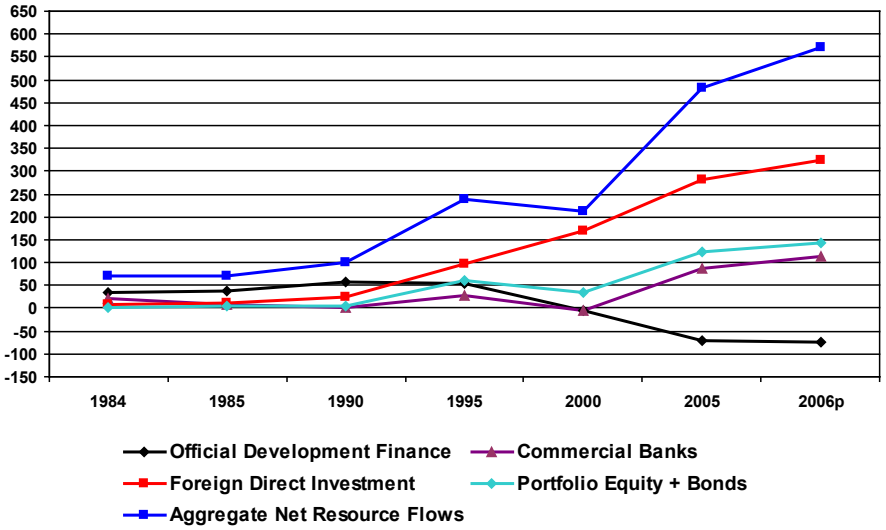
Country/year	Acquirer/acquiree	Value of transaction	Funds flows into host country
Argentina/1999	Repsol/YPF	$US 13.1 billion	$US 3.0 billion
Mexico/2001	Citigroup/Banacci	$US 12.5 billion	$US 6.25 billion
Colombia/2005	SABMiller/Bavaria	$US 7.8 billion	approx $US 5.9 billion
DR,PR,Ven/2006	Telmex/Verizon	$US 3.7 billion	0

Panama/2006	HSBC/Banistmo	$US 1.77 billion	$US 1.77 billion
Chile/2002	Anglo American/ Exxon	$US 1.42 billion	0
Arg 1999	bank	$US 1.4 billion	$US 700 million
Argentina/2002	Petrobras/Perez Companq	$US 1.08 billion	$US 689 milllion
Arg mid-1990s	telecom	$US 1.0 billion	$US 1,000 million
Mexico/2002	Telefónica/Pegaso	$US 884 million	0
Peru/2007	Chinalco/Peru Copper	$US 792 million	0
Brazil/2002	Telmex/Telecom Americas	$US 556 million	$US 200 million
Arg 2000	pharmaceuticals	$US 130 million	$US 130 million
Arg 2001	Energy	$US 60 million	$US 60 million
Totals	---	$US 46.7 billion	$US 19.7 billion (42%)

Notice that of about $US 47 billion of FDI that took place in these examples, less than half of this investment actually brought new funds into the receiving country. Almost two-thirds of the FDI was financed by purchase of existing shares from other foreign shareholders, or by transferring shares of the investor's home-country company to the sellers of the affiliate company in Latin America.This means that simple data on foreign direct investment as a financing source for economic development need to be interpreted with great care. If these data are representative of FDI in general in Latin America, then the overall amount of funding coming into the region is far less than it appears. This is not a criticism of the investors, but rather a criticism of the over-simplifiers who mis-state the financial impact of FDI on host countries.

Another feature of FDI -- not evident from the discussion of companies above -- is that about half of it comes from retained earnings of the MNE affiliates. As noted earlier, Figure 4 shows that a very large part of the value of FDI, approximating one-half on average, is simply funds reinvested in existing affiliates. These are not new funds entering the country, but rather existing funds which are the earnings of local affiliates of MNEs that are not sent abroad. On an aggregate basis, this amount has to be considered as fundamental to interpreting the financial flow impact of FDI. Half of the value of annual FDI is thus coming from local sources (i.e., retained earnings of local affiliates) – though it could be considered as funding that would not have existed if the MNEs had not operated those businesses locally. Alternatively, one could argue that local firms might have undertaken the same investment themselves, and that FDI is just replacement of local investment. This replacement argument has been fairly widely rejected, in surveys of direct investors and in studies of aggregate investment activity. In sum, the importance of retained earnings as a financing source for FDI should not be ignored.

Figure 4: Funds Flows to Emerging Markets



Source: World Bank, Global Development Finance 2007 & World Debt Tables
http://siteresources.worldbank.org/INTGDF2007/Resources/3763069-1179948748801/GDF07_completeFinal.pdf

For foreign direct investment to have the greatest financial impact, it must be financed from abroad, and it must involve new (greenfield) investment or replacement of local investors with foreign investors, rather than just trading assets between foreign investors. Whether or not this happens is an empirical question, but for public policy the answer is to push direct investors to bring in new funds when possible. Foreign direct investment clearly is a major source of foreign finance for emerging markets in the early 2000s. Its impact may be much more important in transferring skills and knowledge than in finance, but the financial part of the picture merits careful examination and evaluation.

Foreign direct investment is an especially desirable form of financial flow, because it involves generally a long-term commitment to a country. That is, direct investors do not close down their operations (usually) when rates of return increase in some other country, or when a devaluation of the currency makes returns (temporarily) less attractive. These kinds of decision often are made by portfolio investors ('hot money' investors). Even foreign bank lenders tend to reduce funding to countries facing financial difficulty, where loan repayments might be affected; whereas foreign direct investors tend to remain in markets for the long run. Figure A-1 demonstrates the stability of FDI flows relative to these other sources of foreign finance in emerging markets.

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Unclogging the Arteries. The Impact of Transport Costs on Latin American and Caribbean Trade

AREA: 5
TYPE: Specific Cases

El impacto de los costes de transporte en el comercio de Latinoamérica y el Caribe
O impacto dos custos de transporte no Comércio da América Latina e Caraíbas

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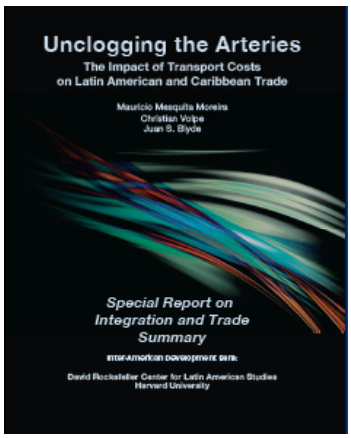
This article summarizes a report prepared by the Inter-American Development Bank the impact of transport costs on Latin American and Caribbean trade. Based on a robust technical analysis (using large and detailed databases) and a series of case studies, it gives a comprehensive view of the significance of transport costs as a barrier to trade in the region. It calls for a broader and more balanced integration agenda, which would focus not only on the traditional barriers to trade, but also on costs, such as those associated with transport-related infrastructure.

El presente artículo resume un informe preparado por el Banco Interamericano de Desarrollo sobre el impacto de los costes de transporte en el comercio de Latinoamérica y el Caribe. A partir de un sólido análisis técnico (con bases de datos de gran tamaño y detalle) y una serie de estudios de casos, aporta una completa visión de la importancia de los costes de transporte como barrera para el comercio de la región. Apela a una agenda de integración más amplia y equilibrada centrada no sólo en las barreras de comercio tradicionales, sino también en los costes (como los asociados a la infraestructura relacionada con el transporte).

O presente artigo sintetiza um relatório preparado pelo Banco Inter-Americano para o Desenvolvimento sobre o impacto dos custos de transporte no comércio da América Latina e Caraíbas. Com base numa robusta análise técnica (recorrendo a bases de dados de grande dimensão e detalhadas) e uma série de estudos de caso, confere uma visão completa do significado dos custos de transporte como barreira ao comércio na região. Apela a uma agenda de integração mais ampla e mais equilibrada, que se centraria não apenas nas barreiras tradicionais ao comércio, mas também nos custos, como os associados à infra-estrutura relacionada com os transportes.



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1. Introduction

This article is a summary of a report prepared by the Inter-American Development Bank on the impact of transport costs on Latin America and Caribbean Trade. The report combines a robust technical analysis using large and detailed databases with a series of case studies that provide vivid accounts of the problems on the ground. This combination of approaches gives a comprehensive view of the significance of transport costs as a barrier to trade in the region. The report calls for a broader and more balanced integration agenda, which would focus not only on the traditional barriers to trade, but also on costs, such as those associated with transport-related infrastructure. It makes a case for refocusing LAC's trade agenda. It is now time to move our attention beyond tariff related issues to non-policy trade issues, in particular transportation costs.

Trade barriers were clearly "the elephant in LAC's living room" in the late 1980s. At the time, their removal was not only necessary but also inexorable, given the prevailing political climate and limited administrative resources. But one legacy of this liberalization juggernaut was the neglect of other less visible, and therefore politically unattractive, "trade facilitation" issues such as transportation.

If this neglect made sense in the late 1980s, it clearly does not today. Transportation costs have emerged as an issue of unprecedented strategic importance in the region for three reasons:

- The success of the trade reforms in drastically altering the relative importance of policy versus non-policy barriers in a rapidly transforming world economy.
- The growing geographical fragmentation of production and time sensitiveness of trade.
- The rise of huge labor-intensive and resource-scarce markets.

In the chapters that follow, we use the tools of economic theory and econometrics to explore three major databases on freight and tariffs in LAC and in the United States[1]. The resulting analysis, combined with other sources of information on distance, the quality of the region's infrastructure and the degree of competition on transport services, provide a telling insight into the magnitude and impact of transport costs in the region.

2. Tariffs, Trends and Comparative Advantage

In this chapter we show that for most Latin American countries transport costs are significantly higher than tariffs. This is true for both import and exports, and especially for intraregional trade. The importance of transport issues is even more overwhelming when we consider the time costs of shipping (i.e. depreciation and inventory costs). Figure 1.2 shows the relative magnitude of transport costs and tariffs for both intraregional exports and exports to the U.S. On the vertical axis shows the ad valorem freight rate and on the

1. They are: the Latin American Association of Foreign Trade's (ALADI) Foreign Trade Statistics System; the U.S. Census Bureau's Foreign Trade Statistics, and the U.S. Department of Transportation's Waterborne Databanks.

KEY WORDS
Transportation. Latin America. Freight and freightage. International trade. Trade barriers.

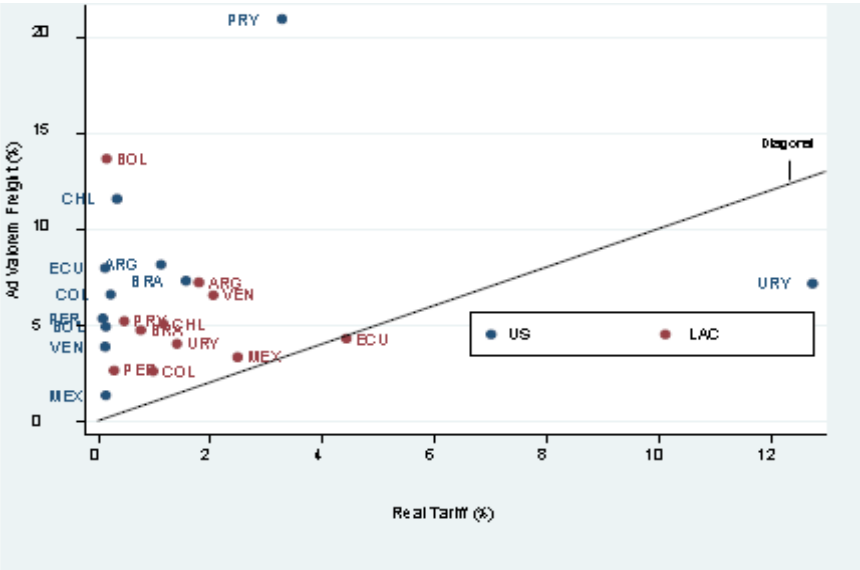
PALABRAS CLAVE
Transporte. Latinoamérica. Fletaje. Comercio internacional. Barreras comerciales

PALAVRAS-CHAVE
Transporte. América Latina. Frete e fretamento. Comércio internacional. Barreiras comerciais

JEL CODES
F120, F140, O100

horizontal axis the ad valorem tariff on exports calculated as tariff revenue divided by the value of exports. We plot both intraregional and U.S. freights and tariffs. Countries on the left of the graph diagonal have average (trade weighted) freight rates that are higher than average (trade weighted) tariffs. The dominance of freight over tariffs is clear: All the countries fall to the left of the diagonal, except for Ecuador's intraregional exports and Uruguay's exports to the United States. A similar pattern emerges in the data on imports.

Figure 1.2 Ad valorem Freight and Real Tariffs for Intraregional Exports and Exports to the U.S. Selected LAC Countries. 2005

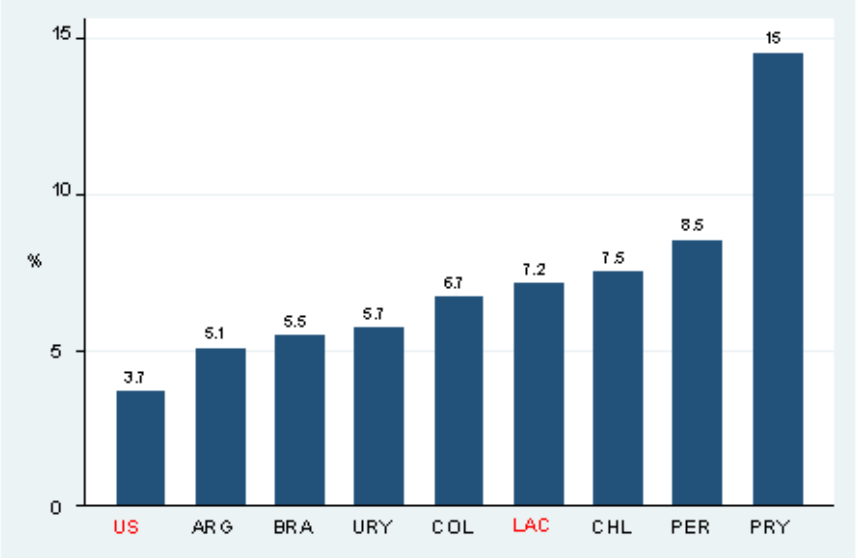


Note: Graph is based on import data from export markets ad valorem.
Freight is the ratio of freight expenditures to imports. Real tariffs are the ratio of tariff revenue to imports. Intraregional exports include Brazil, Argentina, Chile, Peru and Uruguay. See Table 1.A.2 in the Appendix for the raw data.
Source: Author's calculation based on U.S. Census Bureau and ALADI data.

In this chapter, we also demonstrate that the region spends nearly twice as much as the United States to import its goods (see Figure 1.3), and that the trends in transportation costs are mixed. While LAC is closing the gap with the developed countries in ocean freight costs, this gap is growing for the increasingly important airfreight. Figure 1.9 shows that airfreight expenditures in LAC are sharply higher than other exporters to the U.S., particularly China. In fact, 2006 airfreight costs were well above the 1995 level, by as much as 36 percent in subregions such as the Caribbean. In contrast, China and the other exporters managed to keep costs below the 1995 mark despite the rise in petroleum prices. Mercosur and Chile have done better than other LAC subregions, but the exceptional gains of the 1990s were rapidly reversed in the 2000s.

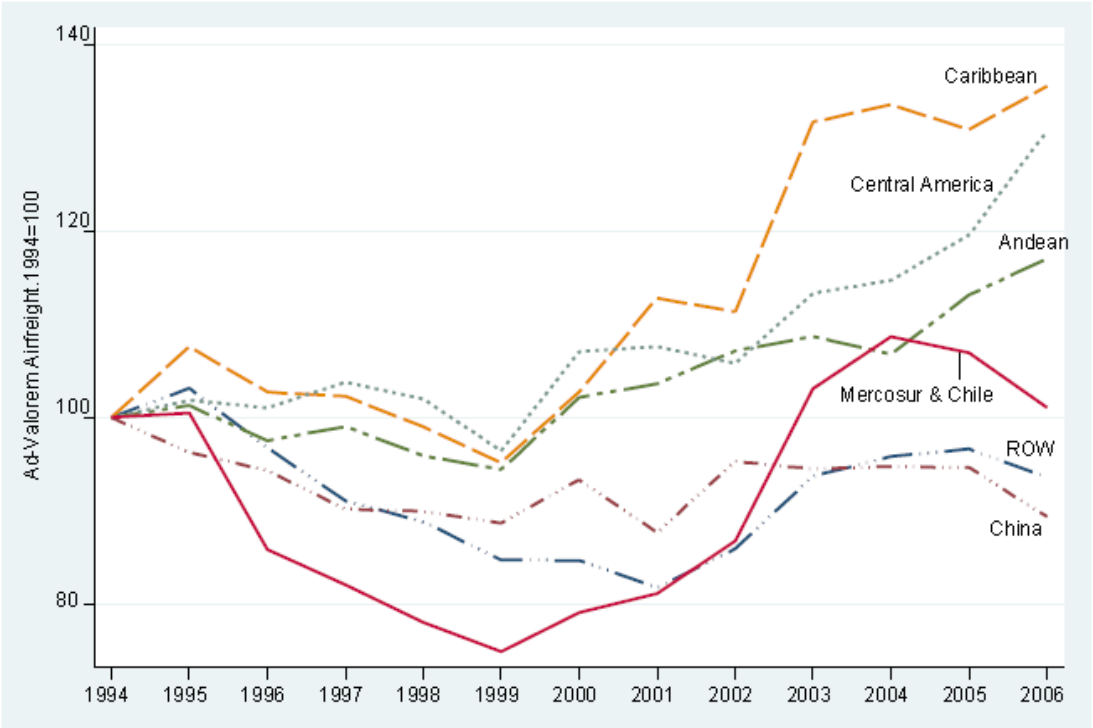
Finally, we show that the region's exports to the U.S. and other key markets are on average more "transport intensive" than those of its competitors. The reason is that the region increasingly relies on two key comparative advantages: abundant natural resources and proximity to the world's largest markets. Figure 1.13 illustrates this point by showing correlations between LAC countries' comparative advantages in the U.S. market (the share of a product in the country's exports to the United States divided by the share of this product in total U.S. imports) and two measures of the goods' "transport intensity," that is, weight-to-value, and time costs. As regards the former, the heavier a dollar's worth of the good exported, the higher are its transportation costs. Natural resources are quintessential "heavy" goods; a dollar's worth of iron ore is many times heavier than a dollar's worth of semiconductors. The second measure, time costs, represents the dollar value of a day of transportation in terms of depreciation and inventory maintenance measured as a percentage of the price of the good.

Figure 1.3 Total Import Freight Expenditures as a Share of Imports, U.S. and Selected LAC Countries, 2005 (%)



Note: Latin America (LAC) is the simple average of Paraguay (PRY), Peru (PER), Chile (CHL), Colombia (COL), Brazil (BRA), Uruguay (URY) and Argentina (ARG)
Freight expenditures include freight and insurance.
Source: Author's calculations based on ALADI and U.S. Census Bureau data.

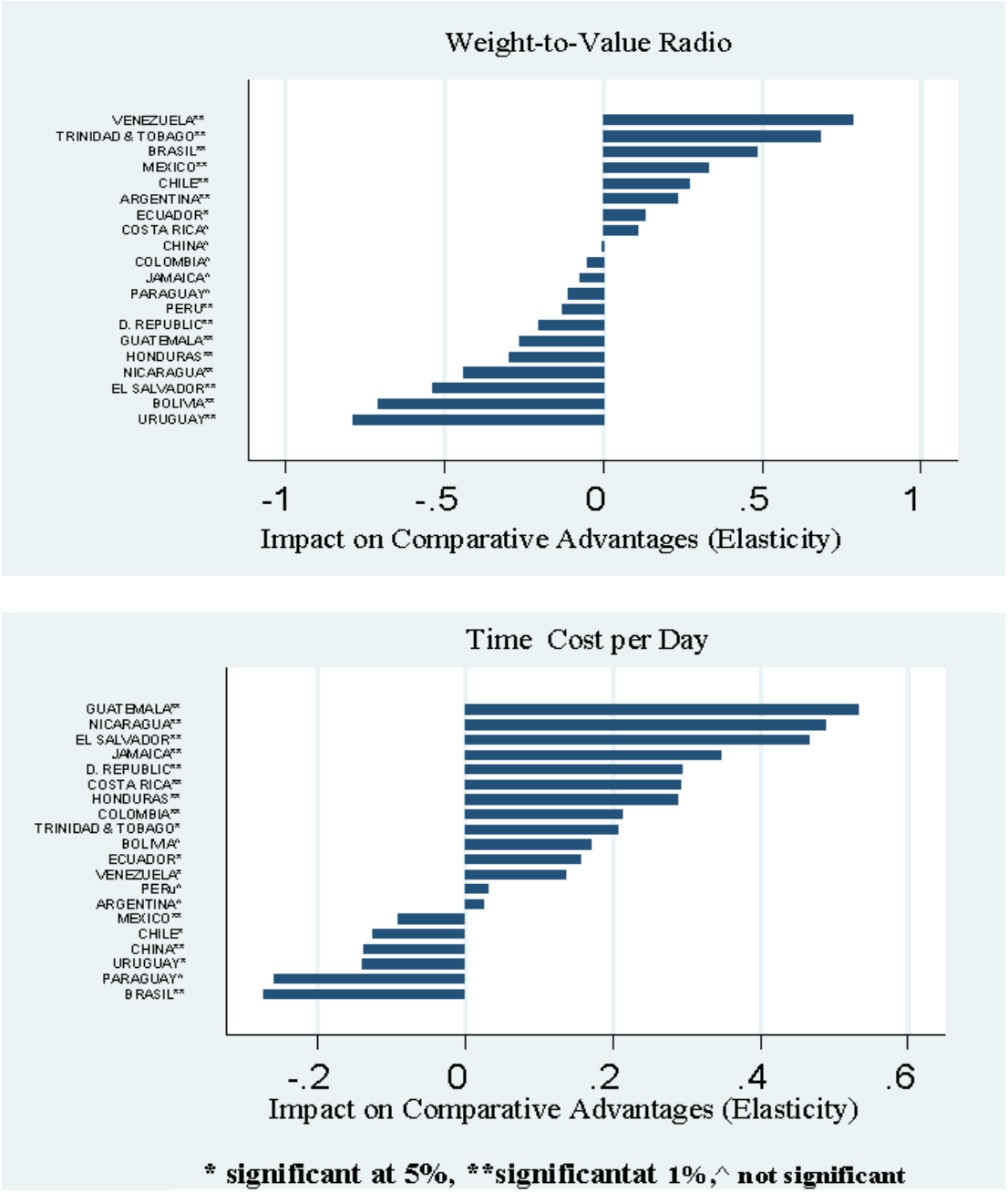
Figure 1.9 Trends in Export Airfreight to the U.S. after Controlling for Trade Composition, Selected LAC subregions, China and the Rest of the World (ROW), 1994-2006. 1994 = 100



Note: Ad valorem airfreight is freight plus insurance as a share of imports. It was estimated by regressing ad valorem freight on the weight to value ratio of the goods imported and on year and partner-good fixed effects. See text for details.
Source: U.S. Census Bureau.

As Figure 1.13 shows, LAC's comparative advantage in the U.S. market is closely correlated with transport-intensive goods, making it very sensitive to changes in transport costs, whether freight, time costs, or both. This is true in the case of both "heavy" goods (South America and Mexico) and time-sensitive goods (Central America). In contrast, China's comparative advantage does not seem in any way associated with either time-sensitive or "heavy" goods, again helping to make the case that the transport intensity of LAC's exports can be one important asset for strengthening the region's competitiveness in U.S. and regional markets.

Figure 1.13 The Impact of Time Costs and Weight on LAC's Revealed Comparative Advantage, U.S. Market, 1994-2006



Note: The impact figures are coefficients of a regression of revealed comparative advantages on time costs and weight-to-ratio with controls. See text for details.

2. Benchmarking Costs and Sorting Determinants

In this chapter, we find that LAC's transport costs are considerably higher than those of developed economies. Much of the difference is due to the composition of the region's exports--and to a lesser degree imports--which are considerably "heavier" than those of the United States or Europe. But composition is only part of the story. Once we get out its influence, we see that factors related to infrastructure efficiency actually explain the bulk of the difference between LAC and its developed partners.

Figure 2.4 breaks out the various determinants that account for differences in ocean shipping prices between the Netherlands, whose port facilities rank among the top in the world, and selected LAC countries in their exports to the United States. First, we see that LAC's exports to the U.S. pay freight rates that average 70 percent higher than those from the Netherlands. The chart then shows that the main factors explaining the differences in the transport costs are weight-to-value ratios and port efficiency, followed by the degree of competition among shipping companies and, to a lesser extent, volumes of trade. Only minor roles can be attributed to differences in the level of containerization and demand elasticity (market's sensitivity to price changes). Finally, differences in import tariff rates, trade imbalance and distance from markets tend to work in favor of Latin America because, on average, its exports face lower tariffs in the United States, are associated with more favorable trade imbalances, and must travel shorter distances than imports from the Netherlands. We should note that, in line with economic theory, import tariffs should raise freight rates since they reduce the impact of transports costs on the final price of the product, giving shippers a powerful incentive to increase their margins.

Figure 2.4 Decomposing Differences in Ocean Freight Rates between LAC and the Netherlands. Exports to the U.S. (2000-2005)

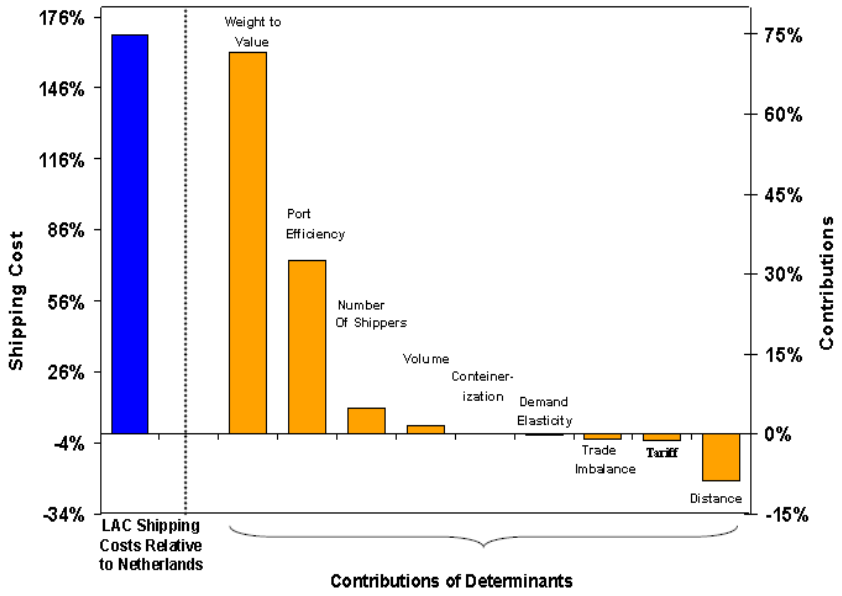
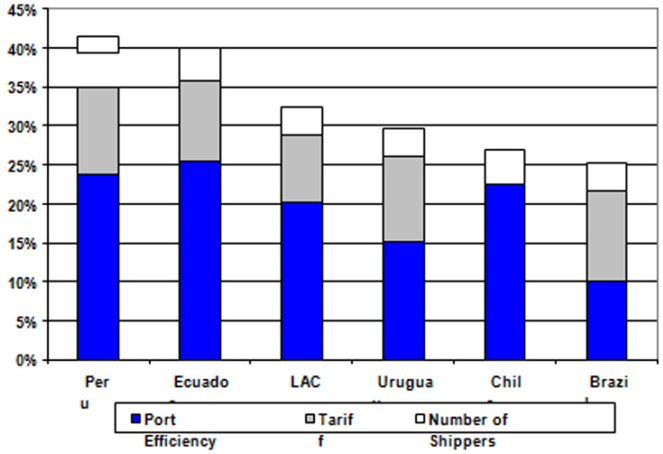


Figure 2.5 shows even more clearly the potential gains that LAC can achieve by cutting transport costs and adjusting public policy. The question posed here is how much transport costs would be reduced if countries in the region had the same levels of port efficiency, tariff rates and shipping competition as the United States. The answer is that, for the typical Latin American country, improving port efficiency to the U.S. level would lower costs about 20 percent. Reducing tariff rates and increasing competition to the U.S. levels would further reduce transport costs by 9 and 4 percent, respectively.

Figure 2.5 Percentage Reductions in Transport Costs from a Change in Port Efficiency, Tariff Rates and Number of Shippers to U.S. Levels, Base Year 2005



Airfreight rates display even higher disparities between LAC and the U.S., although determinants remain similar. In Table 2.5, the first row shows that airfreight rates for LAC'S imports are more than twice those of the United

States. The other rows show the relative impacts of each factor. Setting aside the contribution of the weight-to-value ratio, a large part of the difference in the shipping prices is once again explained by infrastructure efficiency. The lesser efficiency of LAC airports compared with those in the United States explains around 40 percent of the difference in shipping charges. The role of import tariffs is also important. Higher tariffs in LAC account for on average about 17 percent of the differences in shipping costs.

Table 2.5 Decomposing Differences in Airfreight Rates between LAC and the U.S., Imports 2005

	LAC Simple Average	Brazil	Chile	Ecuador	Peru	Uruguay
Ad Valorem Shipping Cost: $\hat{f}_{LAC} / \hat{f}_{US}$	278%	284%	388%	240%	311%	156%
Contribution to Differences in Fitted Values:						
Weight-to-Value Ratio	48%	20%	56%	65%	44%	42%
Port Efficiency	40%	65%	40%	27%	35%	46%
Tariff	17%	18%	4%	23%	25%	30%
Forign Infrastructure	0%	-1%	1%	1%	1%	1%
Demand Elasticity	0%	0%	0%	0%	0%	0%
Distance	- 6%	-1%	- 1%	- 16%	- 6%	- 20%

Source: Author's calculations based on results from the regression in Table 2.B.4 (Appendix 2.B). See Table 2.2 for an explanation of this type of decomposition.

This body of evidence suggests a number of conclusions. First, the prominent role played by weight in explaining LAC's higher shipping costs means that the region is destined to pay more for transportation (on an ad valorem basis), whatever the quality of its infrastructure. This reinforces the point made earlier about transport intensity: Export composition plays a strategic role in LAC's transport costs.

But distance generally plays only a minor role, making it even more urgent to improve the region's logistic chains. If distance does not matter that much, competitors can easily overcome the advantage of LAC's proximity to large markets if the region's transport infrastructure falls short. How exactly should the government tackle this infrastructure gap?

This question takes us to third insight. As far as we can see—and we do not have the whole picture because we didn't look at transport costs within countries (except for the case studies in Chapter 4)—the region can reap the highest returns by improving the efficiency of its ports and airports. In fact, a full 40 percent of the differences in shipping costs between LAC and the United States and Europe are due to differences in port and airport efficiency.

Another important step would be to increase competition among shipping companies, although the potential for gains here would appear much more modest than that related to infrastructure efficiency. But this should not be read as an endorsement of the status quo, nor of the current state of government regulations in the region. In reality, it is difficult to measure competition in the shipping industry, and particularly for airfreight. Nevertheless, it is clear than an anachronistic web of bilateral air service agreements are resulting in costly competitive distortions in the airline industry. Analysts often use the expression "spaghetti bowl" to describe the myriad of trade agreements governing trade in goods in the region. Yet, when these distortions are compared to those arising from airline industry regulations, the spaghetti bowl appears to be just a side dish. Brazil's recent proposed "open air agreement" for South America would certainly be a step in the right direction.

Finally, a less intuitive insight concerns the impact of import tariffs on transport costs. Hig-

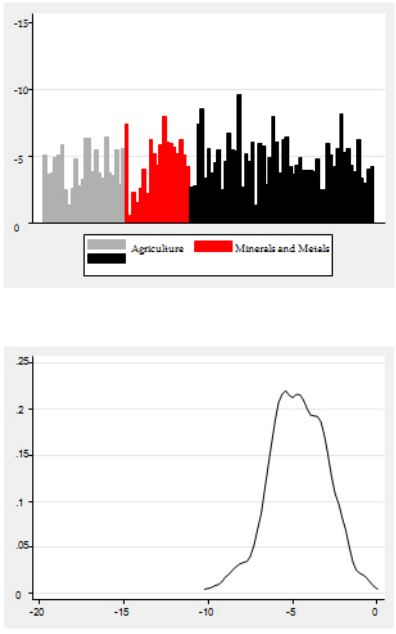
her tariffs mean that transport costs are less visible to consumers and producers since they reduce the share of these costs in the total price of goods, giving shippers a powerful incentive to increase their margins. Our estimates suggest that reducing LAC's average tariff rate to the level of the United States can cut ocean shipping costs by an average of 9 percent. Countries with tariffs above the average, such as Argentina and Brazil, would reap the bulk of the gains. Even higher gains can be expected in airfreight.

3. What Are The Trade Gains?

In this chapter, we show how a trade agenda that incorporates transport costs can increase the volume and diversification of the region's trade, particularly when compared to a traditional, tariffs-only agenda. Even now, with the China-led commodity boom, LAC's share of world trade clearly remains below its potential, both in volume and in diversity.

Our sector-level estimates confirm that an effort to bring down import tariffs and freight rates simultaneously can substantially increase both the volume and diversity of goods traded by the region. When we isolate the impact of these costs from other trade factors, we find that a 10 percent decrease in freight costs and tariffs would boost LAC's imports by 50 percent. But behind this average impact lies substantial variations from one sector to another (Figure 3.7). The effect ranges from 5.5 percent in the case of salt, sulfur and stones to 96.6 percent in the case of leather articles. In general, the average increase of bilateral imports brought about by a 10 percent decline of trade costs would be larger for manufacturing (48.4 percent) than for minerals and metals (47.1 percent) and agricultural products (42.9 percent).

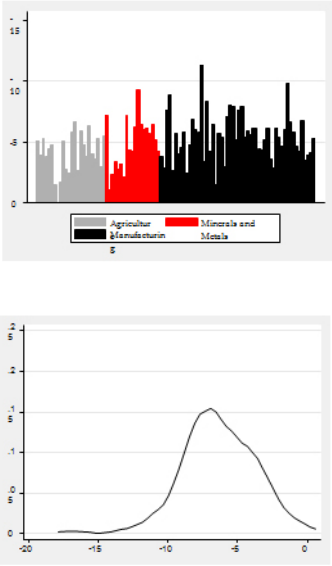
Figure 3.7 Impact of Trade Costs on Sectoral Imports



The figure presents the impact of trade costs on sectoral imports as estimated at the product level (6-digit HS) pooling at the sector level (2-digit HS) (top) and the share distribution of these sectoral impacts over their levels (bottom), based on the specification including importer, exporter, and years fixed effects and excluding the United States. Within broad sectors (agriculture, minerals and metals, and manufacturing), observations are correlatively ordered according to the respective 2-digit HS.

We also find significant impacts on exports (Figure 3.8). Our estimates suggest that a 10 percent cut on trade costs would raise intraregional exports by more than 60 percent on average. As in the case of imports, there is substantial variation across sectors, with the largest effect in tin (169.2 percent) and the smallest in salt, sulfur and stones (3.6 percent). On average, the expansion associated with a 10 percent decline of trade costs would be larger for manufacturing (66.3 percent) and minerals and metals (69.2 percent) than for agricultural products (54 percent).

Figure 3.8 Impact of Trade Costs on Sectoral Exports



The figure presents the impact of trade costs on sectoral exports as estimated at the product level (6-digit HS) pooling at the sector level (2-digit HS) (top) and the share distribution of these sectoral impacts over their levels (bottom), based on the specification including importer, exporter, and year fixed effects and excluding the United States. Within broad sectors (agriculture, minerals and metals, and manufacturing), observations are correlatively ordered according to the respective 2-digit HS.

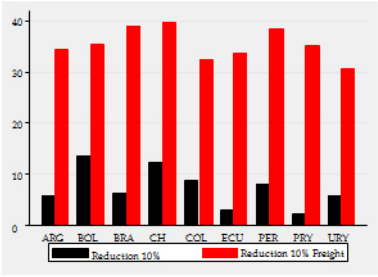
Lower trade costs not only increase trade volume, but also produce sizeable gains in the diversity of goods being traded. According to more conservative estimates, a 10 percent decline in average trade costs would be associated with a 9 percent increase in the number of products imported and an expansion of more than 10 percent in the number of products ex-

ported to the region. For Argentina, on average, a 10 percent decline in costs would increase by 210 the country's exports (broadly defined) to other LAC countries. For Brazil, Colombia and Peru the figures would be 253, 53 and 51 products, respectively.

These figures further strengthen the case for a broader trade agenda. As discussed in Chapter, transports costs typically account for the largest share of the trade costs included in these estimates. In the case of intraregional imports and exports, and of exports to the U.S., they account on average for more than 70 percent of the LACs' trade costs, even without factoring in time costs. But now we go a step further to determine the separate impact of both freight and tariff rates on the trade volume and diversification of each LAC country in our sample. Specifically, we examine how much export volumes and diversification would change in each country if either transport costs or tariffs were reduced by 10 percent.

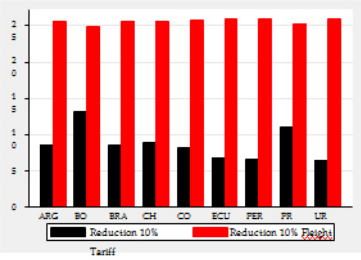
Figures 3.9 and 3.10 shows that for all LAC countries, the positive impact of a 10 percent reduction in transport costs on intraregional exports and on the number of products exported far exceed those of a similar reduction in tariffs. In particular, such a reduction in transport costs would lead to a median expansion of intraregional exports almost five times larger, and to a median increase in the number of products exported to the region nine times larger, than that from tariffs. This result is hardly surprising. For while the LAC countries have made substantial progress in liberalizing intraregional trade over the last two decades, investment in infrastructure, especially in cross-border, trade-related projects, has been low.

Figure 3.9. Reductions in Transport Costs and Tariffs and Median Response of Sectoral



The figure shows the median predicted percentage change of exports across sectors as a consequence of a 10 percent reduction in transport costs and a 10 percent reduction in tariffs for selected Latin American countries, as computed using estimation results from the specification including importer, exporter, and year fixed effect and excluding the United States, and taking 2004 as a benchmark. Exporter countries are on the horizontal axis.

Figure 3.10 Reductions in Transport Costs and Tariffs and Median Response of Export Diversification

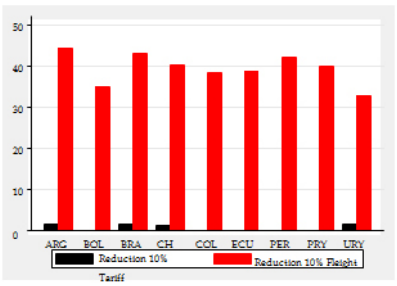


The figure shows the median predicted percentage change of the number of products exported across trade partners as a consequence of a 10 percent reduction in transport costs and a 10 percent reduction in tariffs for selected Latin American countries, as computed using estimation results from the specification including importer, exporter, and year fixed effects and excluding the United States, and taking 2004 as a benchmark. Exporters are on the horizontal axis.

Moving to the sector level, our estimates indicate that lowered transport costs in - manufacturing - would result in the highest average percentage increase of exports in Brazil, Chile, Colombia, Ecuador, and Uruguay. In Argentina, on the other hand, the largest effect would be felt in - minerals and metals-. In Bolivia, Paraguay, and Peru, most of the gains would be in agricultural exports. But it should be noted that most countries show a substantial variation across sectors within each group of activities, making it difficult to identify a clear cross-grouping pattern.

The overwhelming importance of freight costs over tariff reduction is also seen in LAC's exports to the United States. Here again, transport costs strongly influence trade volumes and diversification. For instance, Figure 3.12 shows that the ratio of the effects of transport costs on export volumes to the effects of tariffs has a median value (over countries and sectors) of 12, with even higher median ratios for two countries that enjoy preferential access to the U.S. market, Peru (48 times larger) and Colombia (24 times larger). We found a similar pattern regarding the number of products being exported to the United States.

Figure 3.12 Reductions in Transport Costs and Tariffs and Median Response of Sectoral Exports to the U.S.



The figure shows the median predicted percentage change of exports to the United States across sectors as a consequence of a 10 percent reduction in transport costs and a 10 percent reduction in tariffs for selected Latin American Countries, as computed using estimation results from the specification including importer, exporter, and year fixed effects and including the United States, and taking 2004 as a benchmark. Exporter countries are on the horizontal axis.

4. The Reality on the Ground

The case studies vividly show how an inefficient transport network hurts a country's trade. In Ecuador, for example, we see how the advantages of proximity and the time sensitiveness can be undermined by shortcomings in infrastructure. In Brazil, we see a commodity boom in which farmers should be reaping major benefits, but where dysfunctional logistics are eating away a substantial part of their rents. The case study of Argentina shows the importance of major transportation investments in efforts to export new products to new markets, a factor that is often overlooked. Mexico provides a cautionary tale about the importance of non-policy trade costs for countries where proximity, interacting with local resources, plays a key role in their comparative and competitive advantages.

5. Moving Beyond Tariffs

We have shown that putting transport costs at the center of the region's trade agenda will produce great gains in volumes and diversification of trade. But we did not examine the additional political and economic benefits that better transportation would produce in improving the distribution of the gains of trade, both within a country and within members of a trade agreement. In an area marked by profound regional inequalities, this dimension of the trade-transport nexus must be included in the policy debate. While collecting data on domestic transport is a challenging exercise, to say the least, it is certainly worth the effort. We see this subject as a natural follow-up to the research presented in this article.

Of course, it is one thing to argue that transport costs should be brought into the trade agenda, and quite another to overcome the formidable political and technical hurdles that stand in the way. For example, politicians know that announcing a trade agreement has far greater potential for getting voters' attention than building ports and railroads. Similarly, a grand plan to move the country into the "knowledge society" tends to generate much more publicity than moves to reduce delays at border crossings or deregulate air transportation.

On the technical front, governments must resist the temptation to turn a decision to improve transport infrastructure into a license to launch any project, whether it has real merit or not. All transport projects must undergo rigorous cost benefit analysis and adhere to fiscal, macroeconomic and environmental standards.

Another challenge is finding resources to carry out projects. Although the recent commodity boom filled the coffers of resource-rich countries, most LAC governments still cannot

provide funding for their urgent social and economic agenda. Public and private partnerships are far from a panacea—particularly because of contractual intricacies and contingent liabilities—but experiences such as those of Chile and Brazil suggest that they can be an interesting way to reconcile the need for state coordination and intervention with the lack of managerial and financial resources.

Finally, transport projects that involve two or more countries present special challenges, such as externalities and failures in coordination. There seems to be a clear role here for regional initiatives such as the Initiative for Integration of Regional Infrastructure in South America (IIRSA) and the "Proyecto Mesoamérica", formerly known as Plan Puebla Panama (PPP). With the support of multilateral finance institutions such as the IDB and CAF, these initiatives are helping governments in the region to coordinate and finance infrastructure projects. The challenges are far from trivial but the payoff is clear: a region better positioned to use trade to fuel economic growth and raise standards of living.