

**Research Abstracts**  
No. 10 December 1998

**CENTER FOR LATIN AMERICAN ECONOMICS**

**Research Department**  
**Federal Reserve Bank of Dallas**

2200 N. Pearl St.  
Dallas, Texas 75201  
Fax: (214) 922-5194  
Phone: (214) 922-5225  
E-mail: [clae@dal.frb.org](mailto:clae@dal.frb.org)

## Preface

The Center for Latin American Economics is pleased to present the tenth issue of *Latin American Research Abstracts*. The issue includes 95 abstracts written by 120 authors and coauthors. The abstracts appear in alphabetical order by the lead author's surname. The authors' mailing addresses appear in these *Abstracts* so that readers interested in receiving copies of the papers can request them directly from the authors.

In preparation for our next publication, we urge you to send abstracts of your recent research, along with copies of the papers. We ask that the authors write the abstracts in English, limit the abstract to 250 words, and confine submissions to research related to Latin American monetary and economic issues. If you are not yet a member, we urge you to join by filling out the application form at the back of this publication. Please send communication to the following address:

Center for Latin American Economics  
Research Department  
Federal Reserve Bank Dallas  
P.O. Box 655906  
Dallas, TX 75265-5906

The Center serves as a catalyst to facilitate communication among scholars. We thank you for your support in this effort.



William C. Gruben  
Director



Carlos E. Zarazaga  
Executive Director

## Contributors

Agosin, Manuel R.

Agosin, Manuel R.  
Ffrench-Davis, Ricardo

Anandt, Bharat N.  
Galetovic, Alexander

Anastasi, A.  
Burdiso, Tamara  
Grubisic, Elena  
Lencioni, S.

Antinolfi, Gaetano  
Huybens, Elisabeth

Barajas, Adolfo  
Steiner, Roberto  
Salazar, Natalia

Barro, Robert

Bebczuk, Ricardo N

Belser, Patrick

Budnevich L., Carlos  
Le-Fort V., Guillermo

Burdiso, Tamara  
D'Amato, Laura  
Molinari, Andrea

Calvo, Guillermo A.

Calvo, Guillermo A.  
Drazen, Allan

Calvo, Guillermo A.  
Mendoza, Enrique G

Camargo, José Márcio

Cardona, Carlos  
Pontón, Adriana  
Sarmiento, Eduardo

Conesa Labastida, Andrés

Cox, Millicent

da Conceição Sampaio de Sousa, Maria  
Ramos, Francisco S.

D'Amato, Laura  
Grubisic, Elena  
Powell, Andrew

De Gregorio, José  
Kim, Se-Jik

Deutsch, Ruthanne

Duryea, Suzanne

Engel, Eduardo  
Fischer, Ronald  
Galetovic, Alexander

Engel, Eduardo  
Galetovic, Alexander  
Raddatz, Claudio

Ffrench-Davis, Ricardo

Fuentes, Noé Arón  
Brugués Rodríguez, Alejandro

Fullerton, Jr., Thomas M.

Ganapolsky, Eduardo J. J.  
Schmukler, Sergio

Gelos, Gaston  
Werner, Alejandro M.

Gershberg, Alec Ian

Goldfajn, Ilan

Goldfajn, Ilan  
Valdés P., Rodrigo

Gómez, Javier

Gould, David  
Balke, Nathan  
Ruffin, Roy

Gould, David  
Marion, Justin

Gourinchas, Pierre-Olivier  
Valdés P., Rodrigo  
Landerretche, Oscar

Griffth-Jones, Stephany  
Cailloux, Jacques  
Pfaffenzeller, Stephan

Hausmann, Ricardo  
Gavin, Michael

Herrera, B. Luis Oscar

Herrera, B. Luis Oscar  
Magendzo W., Igal

Iaryczower, Matías  
Saiegh, Sebastián  
Tommasi, Mariano

Isgut, Alberto E.

Issler, João Victor  
Pegurier, Fabiano J. H.

Jadresic, Esteban

Jones, Mark  
Sanguinetti, Pablo  
Tommasi, Mariano

Kamin, Steven B.  
von Kleist, Karsten

Kaminsky, Graciela  
Reinhart, Carmen M.

Lamarche, Carlos  
Porto, Alberto  
Sosa Escudero, Walter

Landerretche, Oscar  
Lefort, Fernando  
Valdés P., Rodrigo

Lefort, Fernando

Leon, Javier  
Oliva, Carlos

Londoño, Juan Luis  
Frenk, Julio

Magendzo W., Igal  
Márquez, Gustavo  
Pagés-Serra, Carmen

Mateos, Calixto  
Gaytán, Alejandro

McQuerry, Elizabeth

Medina G., Juan Pablo  
Valdés P., Rodrigo

Méndez Quesada, Eduardo

Méndez Quesada, Eduardo  
Torres Gutierrez, Carlos  
Mayorga Vindas, Jose E.

Mizala, Alejandra  
Romaguera, Pilar

Mizala, Alejandra  
Romaguera, Pilar  
Farren, Darío

Molano, Walter

Nagarajan, Nigel

Oliva, Carlos  
Leon, Javier  
Iannariello-Monroy, Maria Pia

Penha Cysne, Rubens

Portugal, Marcelo S.  
Madalozzo, Regina C.

Queisser, Monika

Ramamurti, Ravi

Reinhart, Carmen M.  
Smith, R. Todd

Rojas O., Alvaro

Rojas R., Patricio  
López, Eduardo  
Jiménez, Susana

Rozenwurcel, Guillermo  
Cruces, Guillermo

Saiegh, Sebastián  
Tommasi, Mariano

Salama, Elias

Sanguinetti, Pablo  
Tommasi, Mariano

Schmidt-Hebbel, Klaus

Schwartz Rosenthal, Moises J.

Tommasi, Mariano

Valdés P., Rodrigo

Végh , Carlos

Vinda Sanchez, Katia

Walker, Eduardo

Zarazaga, Carlos E. J. M.

Agosin, Manuel R.  
Professor, Department of Economics  
Director, Center on International Economics  
and Development  
Universidad de Chile  
Diagonal Paraguay 257, Rm. 1506  
Santiago-Chile  
Phone: (56-2) 678-3445  
Fax: (56-2) 678-3413  
Email: [magosin@decon.facea.uchile.cl](mailto:magosin@decon.facea.uchile.cl)

#### Business and Household Saving in Chile

This paper examines the recent saving performance of the Chilean economy in the light of its long-run (1940-96) trends. The first conclusion that can be derived from the data is that all of the increase in private saving since the mid-1980s is due to business saving. Household saving turns out to be a stationary variable with zero mean. In the long run, household saving is unresponsive to changes in public saving; and in the short run, the offset is incomplete. Since business saving has a unit root, households do not seem to take the saving of firms into account when making their own saving decisions. Within the theoretical framework of a model of business investment with liquidity constraints, we estimate a VAR for business saving, private investment, public saving, and foreign saving (the current account deficit). We are able to determine that business saving is unaffected by public saving and that in the long run, foreign saving and business saving are perfect substitutes. Private investment, business saving, and foreign saving are jointly determined. The policy conclusions are that policies that stimulate investment are likely to lead to an increase in private saving, that policies aimed at raising household saving will be ineffective, and that increases in public saving are very powerful for increasing domestic saving in the long run.

\*\*\*\*\*

Agosin, Manuel R.  
Professor, Department of Economics  
Director, Center on International Economics  
and Development  
Universidad de Chile  
Diagonal Paraguay 257, Rm. 1506  
Santiago-Chile  
Phone: (56-2) 678-3445  
Fax: (56-2) 678-3413  
Email: [magosin@decon.facea.uchile.cl](mailto:magosin@decon.facea.uchile.cl)

Ffrench-Davis, Ricardo  
Principal Regional Advisor  
ECLAC  
Casilla 179-D  
Santiago-Chile  
Phone: (56-2) 210-2555  
Fax: (56-2) 208-1801  
E-mail: [rffrenchdavis@eclac.cl](mailto:rffrenchdavis@eclac.cl)

#### Managing Capital Inflows in Chile

This paper characterizes the surge of capital inflows into Chile in the 1990s and describes the policies that deal with these inflows. It analyzes the results of the policy mix used in terms of effectiveness with which flows were managed and analyzes the effects on growth and investment. About 60 per cent of the flows have been foreign direct investment (FDI), the remainder being a mix of portfolio inflows, short-term credit, and longer-term borrowing by banks and large domestic firms. The policies adopted have included the imposition of an unremunerated reserve requirement on all financial inflows (excluding FDI), active sterilized intervention on foreign exchange markets to prevent undue appreciation of the peso, and the use of a crawling exchange-rate band. These policies appear to have prevented an even larger surge of foreign capital, have kept real exchange-rate appreciation within bounds, and have been partly responsible for the country's positive growth performance. However, they have tended to become insufficient since late-1995 when capital inflows to emerging economies accelerated and the intensity of regulations was kept unchanged. Since late 1997, demand for foreign exchange has taken an upward jump as a consequence of contagion from the Asian currency crisis; and a part of the exchange-rate appreciation of the past two

years has been reversed. The Chilean experience points to the need to face sharp temporary surges in capital inflows with a flexible mix of policy tools (including the regulation of capital inflows) rather than with a single and rigidly used instrument.

\*\*\*\*\*

Anandt, Bharat N.  
Harvard Business School  
Soldiers Field Road  
Boston, MA 02163.  
Phone: (617) 495-5082  
Fax: (617) 496-5859  
E-mail: banand@hbs.edu

Galetovic, Alexander  
Universidad de Chile  
Centro de Economía Aplicada (CEA)  
Av. República 701  
Santiago, Chile  
Phone: (56-2) 678-4065  
Fax: (56-2) 689-7895  
E-mail: agaleto@dii.uchile.cl

#### Weak Property Rights and Hold-up in R&D

We study how the equilibrium organization and financing of R&D varies according to the ease with which property rights over knowledge can be specified. We examine various methods of organization that appear to be common in practice (e.g., corporate R&D, seed-stage venture capital finance followed by corporate acquisitions, and venture capital-backed R&D) and show that each of these can emerge in equilibrium. There are four main results of interest. First, even when knowledge is embodied in human capital and property rights over this knowledge are weak, firms may be able to capture the value created from the innovations they finance. Thus, weak property rights need not deter innovation. Second, the particular organization that emerges in equilibrium need not be efficient. Third, local spillovers and stronger product market competition increase the likelihood that research projects will be financed and undertaken. This second-best result suggests that when there is more than one appropriability problem, they may neutralize each other instead of adding up. Finally, we

show that in equilibrium, venture capitalists tend to finance projects that are more profitable than those financed by corporations.

\*\*\*\*\*

Anastasi, A.  
Burdisco, Tamara  
Grubisic, Elena  
Lencioni, S.  
Banco Central de La República Argentina  
Reconquista 266  
Buenos Aires 1003 Argentina  
Phone: (54-1) 348-3817

#### Is It Possible to Anticipate Problems in a Financial Institution? Argentina 1994-97

This work attempts to identify a system of indicators that can provide early warning of possible failures of financial institutions. The work looks at institutions operating in Argentina 1994-97. We utilize different econometric techniques, which are considered complementary such as probit models that estimate the probability of default and transition models that estimate the longevity of an institution. The paper addresses the evolution of statistical techniques utilized in determining the vulnerability of a financial institution. It reviews empirical studies for the US and Argentina and describes principal factors that affected the financial system in Argentina between 1991-97. It presents empirical results and makes conclusions.

\*\*\*\*\*

Antinolfi, Gaetano  
Washington University  
One Brookings Drive  
St. Louis, MO 63130

Huybens, Elisabeth  
Centro de Investigación Económica  
ITAM  
Av. Camino a Sta. Teresa #930  
Col. Heroes de Padierna  
México, D. F. 10700  
Phone: (52-5) 628-4197  
Fax: (52-5) 628-4058  
E-mail: huybens@master.ster.itam.mx

On Domestic Financial Market Frictions,  
Unrestricted International Capital Flows, and  
Crises in Small Open Economies

We produce an example of a small open economy for which small increases in the world interest rate may induce a sharp decline in output and a precipitous depreciation of the nominal and the real exchange rate (RER). Due to a costly state verification (CSV) problem in domestic credit markets combined with unrestricted international capital flows, our economy generates two long-run equilibria, one with low GDP and a relatively depreciated RER and one with high GDP and a relatively appreciated RER. The first is always a saddle while the second may be a sink or a source depending on the level of the world interest rate. More precisely, there exists a critical level of the world interest rate above which the high-GDP steady state turns from a sink to a source. Hence unexpected increases in the world interest rate to supercritical levels may induce a crisis in the economy. This is identified in the model with the economy switching from an equilibrium path approaching the high output steady state to the saddle path approaching the low output steady state. We simulate such a crisis trajectory for our model economy. In Mexico's recent history, periods of growth associated with an appreciation of the real exchange rate (RER) have alternated with periods of sharp contraction characterized by a depreciation of the RER. Our economy may display such behavior as an equilibrium response to changes in the world interest rate.

\*\*\*\*\*

Barajas, Adolfo  
International Monetary Fund  
Western Hemisphere Department  
700 19<sup>th</sup> Street, N.W.  
Washington, D. C. 20431  
Phone: (202) 623-4152  
Fax: (202) 623-4344

Steiner, Roberto  
Salazar, Natalia  
Fedesarrollo  
Bogotá, Colombia

Interest Spreads in Banking: Costs,  
Financial Taxation, Market Power, and Loan  
Quality in the Colombian Case 1974-96

This paper examines the determinants of the high intermediation spread observed in the Colombian banking sector for over two decades. A reduced-form equation is estimated on the basis of a bank profit maximization model that permits decomposition into operational costs, financial taxation, market power, and loan quality. Although the average spread did not change between the pre liberalization (1974-88) and post liberalization (1991-96) periods, its composition did, with market power being significantly reduced and the responsiveness to loan quality increased. Colombia's progress in reducing operational costs and financial taxation and improving loan quality will determine whether it can narrow the spread.

\*\*\*\*\*

Barro, Robert  
Harvard University  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

#### Optimal Management of Indexed and Nominal Debt

A tax-smoothing objective is used to assess the optimal composition of public debt with respect to maturity and contingencies. This objective motivates the government to make its debt payouts contingent on the levels of public outlay and the tax base. If these contingencies are present but asset prices of non-contingent indexed debt are stochastic, then full tax smoothing dictates an optimal maturity structure of the noncontingent debt. If the certainty-equivalent outlays are the same for each period, then the government should guarantee equal real payouts in each period; that is, the debt takes the form of indexed consols. This structure insulates the government's budget constraint from unpredictable variations in the market prices of indexed bonds of various maturities. If contingent debt is precluded, then the government may want to depart from a consol maturity structure to exploit covariances among public outlay, the tax base, and the term structure of real interest rates. However, if moral hazard is the reason for the preclusion of contingent debt, then this consideration also deters exploitation of these covariances and tends to return the optimal solution to the consol maturity structure. The issue of nominal bonds may allow the government to exploit the covariances among public outlay, the tax base, and the rate of inflation. But if moral hazard explains the absence of contingent debt, then the same reasoning tends to make nominal debt issue undesirable. The bottom line is that an optimal-tax approach to public debt favors bonds that are indexed and long term.

\*\*\*\*\*

Bebczuk, Ricardo N.  
Department of Economics  
University of Illinois at Urbana-Champaign  
E-mail: bebczuk@uiuc.edu

#### Corporate Saving and Financing Decisions in Latin America

This paper studies private saving decisions in Latin America in the 1990s with special focus on corporate saving. Several applied contributions to the fields of saving and corporate finance are introduced. Firstly, the puzzling omission of corporate saving in private saving studies is discussed. Afterwards we calculate, in most cases for the first time, gross saving and sources of funds of the corporate sector in seven Latin American countries over the period 1990-1996. Also, we conduct an econometric exploration on the macroeconomic determinants of private and corporate saving, and private investment. Particularly, the effect of capital-market imperfections and the relationship between corporate and personal savings are analyzed.

\*\*\*\*\*

Belser, Patrick  
Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577  
Phone: (202) 623-3783  
Fax: (202) 623-2481

#### Does Latin American & Caribbean Unemployment Depend on Asian Labor Standards?

Many Latin American nations have recently implemented liberal trade regimes, often as part of a larger set of market-oriented reforms, and have abandoned their industrialization policies based on import-substitution. In the context of this new openness to trade, discussions about the international *harmonization* of a minimum set of labor standards have moved to the forefront of the Latin American policy agenda. There is

indeed a growing feeling among many government officials that the continent's high unemployment partly results from *unfair* trade practices abroad. In particular, it is alleged that many East Asian nations deliberately restrict labor rights in order to gain a special competitive advantage, stimulate exports, and attract inflows of foreign direct investment. This is why governments in Argentina, Chile or Uruguay have decided to provide some support for a *social clause* in the World Trade Organization (WTO) . But is this a good idea? Are labor rights really more restricted in export-oriented Asian nations than they are in Latin America? And if yes, are Latin American workers prejudiced by Asia's lower standards? These are the main questions addressed in this paper. The paper has two objectives. The first is to present a brief description of core international labor standards promoted by the International Labor Organization (ILO) as well as to provide an overview of the ratification and -when possible- the enforcement of these standards in Asia and Latin America. The second objective is to discuss and provide some evidence on possible linkages between labor standards, international trade, and foreign investment. In particular, the paper defends the view that in theory, there are three plausible ways for weak Asian labor rights to hurt Latin American employment. The first is by increasing Latin American low skilled labor-intensive manufacturing imports from Asia; the second is by making Latin American manufacturing exports less competitive; and the third is by diverting foreign investment away from Latin America. The question of the magnitude of these effects, however, is an empirical matter. And this is why the paper also offers a quick overview of the available but contradictory and ambiguous evidence. Finally, policy implications are discussed.

\*\*\*\*\*

Budnevich L., Carlos  
Gerente Análisis Financiero  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Le-Fort V., Guillermo  
Gerente de la División Internacional  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Fiscal Policy and the Business Cycle in Chile during the Nineties

The Chilean economy is historically characterized by an important degree of volatility. Volatility is undesirable in an indexed economy that attempts to disinflate, making the smoothing of the business cycle an issue for economic policy. This article studies the effect of public expenditure stabilization and the use of taxes as a counter cyclical tool. This is done by calibrating a basic macroeconomic model to Chilean reality. The results show that about 25% of variability in growth rates could be eliminated in the model if cyclical fiscal impulses were avoided. This could be achieved with constant rates of growth for public consumption and investment and through counter cyclical taxes. Finally, the article proposes the idea of establishing a stabilization mechanism for public expenditure through growth limits and state dependent flexibility rules. The establishment of a stabilization fund for tax revenues where counter cyclical responses by the fiscal sector could be accounted for and accumulated is important if expenditure growth stabilization is to be effective and credible. This measure could grant public expenditure independence from changes in tax collecting along the business cycle. Moreover, the possibility of flexibilizing the VAT is analyzed, assessing its effectiveness, its time consistency problems, and the costs and benefits of substituting it with some degree of flexibility on income taxes or on investment tax incentives. The article concludes that there exists a series of

fiscal instruments that could be used countercyclically such as expenditure growth rules, stabilization funds, and flexible tax systems.

\*\*\*\*\*

Burdiso, Tamara  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina

D'Amato, Laura  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina  
Phone: (54-1) 348-3814  
Fax: (541) 348-3557

Molinari, Andrea  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina

The Bank Privatization Process in Argentina:  
Towards a More Efficient Banking System?

The privatization of public banks plays a crucial role in the deep restructuring process that has taken place in the Argentine financial system since the beginning of Convertibility, in 1991. Although these privatizations affect the economy through various economic and political channels, we focus on their impact on the banking industry performance. We develop two methods to answer the following question: Has the privatization of public banks improved the performance of the Argentine banking industry?

The first method is to compare the actual system with a hypothetical private system, using conventional performance indicators, such as average costs, ROA, etc. The second method is an econometric exercise that measures and compares both the scale and X-efficiency of private and public banks. So as to estimate X-efficiency we use a fixed effect methodology that takes advantage of panel data techniques to measure non observable characteristics of banks.

The comparison between the actual and the hypothetical systems shows that private banks have a better management of their loan portfolios and greater capitalization ratios than the public banks. On the other hand, the second method shows that private banks are more X-efficient than their public counterparts. There is also evidence of significant scale economies for retail banks. Therefore, we conclude that the privatization process has improved the performance of banks by reducing their portfolio risk, thus leading to a more efficient allocation of credit. The results also show that the privatization process also contributed to enhance the efficiency of the banking industry and that the continued consolidation of the banking sector will result in scale efficiency gains.

\*\*\*\*\*

Calvo, Guillermo A.  
Distinguished University Professor  
Department of Economics  
University of Maryland  
4118 Tydings Hall  
College Park, MD 20742-7211 USA  
Phone: (301) 405-3553  
Fax: (301) 405-7835  
E-Mail: calvo@econ.umd.edu

Balance of Payment Crises in Emerging  
Markets

The paper shows that the combination of large capital inflows and sovereign governments could give rise to self-fulfilling balance of payments crises. It argues that a current account deficit could impair the resolution of such crises, but the crises themselves could occur even though the current account was in balance. The key is a weak financial sector, possibly made so by an accommodating central bank. In contrast with most of the literature on this subject, the paper endogenizes output and discusses the channels (New Classical and Keynesian) through which a BOP crisis can result in output collapse. Building on a Time to Build model, the paper shows that a growth slowdown can take place even though a BOP crisis brings about no current account reversal.

\*\*\*\*\*

### Betting Against the State: Socially Costly Financial Engineering

The central question raised in the paper is the desirability of state-contingent contracts under imperfect policy credibility. The answer hinges on whether lack of credibility is formally equivalent to standard market distortion (as in Calvo (1986)). In this regard, the paper shows a benchmark case in which imperfect credibility of a trade liberalization program is distorting, and the distortion is magnified by state-contingent markets. In addition, it examines the welfare implications of gaining credibility and concludes that, as a general rule, more credibility is better than less, and examines the moral hazard faced by policymakers in carrying out reform in case the private sector is able to obtain insurance against its discontinuation. At a more fundamental level, the paper also discusses the relevant welfare criterion when there exists a discrepancy between the government and the private sector assessment about the probability of reform being carried out to full fruition.

\*\*\*\*\*

### Capital Flows and Capital-Market Crises: The Simple Economics of Sudden Stops

The paper studies mechanisms through which a sudden stop in international credit flows may bring about financial and balance of payments crises. It is shown that these crises can occur even though the current account deficit is fully financed by foreign direct investment. However, equity and long-term bond financing may shield the economy from sudden stop crises. The paper also examines possible factors that could trigger sudden stops and argues that the greater independence that countries have, as compared to regions of a given country, could help to explain why sudden stop crises are more prevalent and destructive at international than at national levels.

\*\*\*\*\*

Calvo, Guillermo A.  
Distinguished University Professor  
Department of Economics  
University of Maryland  
4118 Tydings Hall  
College Park, MD 20742-7211 USA  
Phone: (301) 405-3553  
Fax: (301) 405-7835  
E-Mail: calvo@econ.umd.edu

Drazen, Allan  
Professor of Economics  
Department of Economics  
University of Maryland  
College Park, MD 20742  
Tel: (301) 405-3477  
Email: drazen@econ.umd.edu

### Uncertain Duration of Reform: Dynamic Implications

We develop a framework to study the effects of policies of uncertain duration on consumption dynamics under both complete and incomplete markets. We focus on the dynamic implications of market incompleteness, specifically on the lack of state-contingent bonds. Two policies are considered: pure output-increasing and tariff-reducing (trade liberalization). With complete markets, the output-increasing policy leads to flat consumption, while with no contingent assets, consumption jumps upward on the announcement of the policy, continues rising as long as the policy is in effect, and collapses when it is abandoned. A similar consumption path obtains in a trade liberalization in the realistic case of low elasticity of substitution and no rebate of tariffs. Market incompleteness rationalizes the existence of gradual changes in consumption.

\*\*\*\*\*

Calvo, Guillermo A.  
Distinguished University Professor  
Department of Economics  
University of Maryland  
4118 Tydings Hall  
College Park, MD 20742-7211 USA  
Phone: (301) 405-3553  
Fax: (301) 405-7835  
E-Mail: calvo@econ.umd.edu

Mendoza, Enrique G.  
Department of Economics  
Duke University  
Durham, NC 27708

#### Empirical Puzzles of Chilean Stabilization Policy

This paper reviews Chilean stabilization policy during the 1990s and argues that, while the merits of Chilean policy should be praised, there are four puzzles in conventional interpretations of the Chilean experience worth studying. First, the policy of targeting indexed interest rates does not coincide with a policy of targeting real interest rates. Second, there is no systematic link between the decline in inflation and the upward adjustments in indexed interest rates. Third, changes in the exchange rate and in the performance of the external sector help explain the decline in inflation. Fourth, the strong cyclical growth of the real economy was influenced in part by the large and persistent increase in the world price of Copper. We provide statistical evidence favoring these arguments using recursively-identified vector-autoregression models, and sketch a model of staggered pricing under indexation that sheds some light on the Chilean case.

\*\*\*\*\*

#### Rational Herd Behavior and the Globalization of Securities Markets

This paper shows that globalization of securities markets exacerbates the volatility of capital flows by strengthening incentives for herding behavior. This is a prediction of a mean-variance portfolio optimization model with imperfect information, in which investors

acquire country-specific expertise at a fixed cost and incur variable reputational costs. The model produces equilibria in which incentives to confirm rumors decrease with globalization. Simulations based on equity markets data and country credit ratings suggest that herd behavior can induce large capital outflows from emerging markets

\*\*\*\*\*

Camargo, José Márcio  
Pontifícia Universidade Católica  
do Rio de Janeiro  
Rua Marquês de São Vicente, 225  
Rio de Janeiro – RJ – CEP 22453-900  
Phone: (52-21) 274-2797  
Fax: (52-21) 294-2095

#### Productivity and Relative Prices: The Labor Market in the Post-Stabilization Period

This work presents stylized facts concerning the behavior of the Brazilian urban labor market in the post-stabilization period and then rationalizes this behavior through the use of a simple model of supply and demand for labor. The work shows the evolution of marginal productivity of labor in the industrial and the service sectors, using as proxy for marginal productivity the contract wage. This wage was obtained from Labor Ministry Law 4923 and deflated by the price index of the specific sector in question. The work examines the experiences of England and Spain and their respective changes in labor laws, which resulted in flexibility in their labor markets. It evaluates the impact these changes had on the open unemployment rate and then draws conclusions.

\*\*\*\*\*

Cardona, Carlos  
Banco de La República  
Carrera 7a No. 14-78 Piso 6°  
Bogotá, Colombia  
Phone: (57-1) 342-1111

Pontón, Adriana  
Banco de La República  
Carrera 7a No. 14-78 Piso 6°  
Bogotá, Colombia  
Phone: (57-1) 342-1111  
E-mail: [apontoca@banrep.gov.co](mailto:apontoca@banrep.gov.co)

Sarmiento, Eduardo  
Banco de La República  
Carrera 7a No. 14-78 Piso 6°  
Bogotá, Colombia  
Phone: (57-1) 342-1111  
E-mail: [esarmigo@banrep.gov.co](mailto:esarmigo@banrep.gov.co)

Evidence on Deflations : International  
Experience

This document analyses deflation policies applied in nine different countries to achieve the shift from moderate to one digit inflation. The countries chosen follow two characteristics: first, their deflation has been successful and sustainable; second, their economic structure appears similar to the Colombian one. The countries meeting these characteristics are: Chile, Bolivia (Bolivia's deflation has not been sustainable recently.), Greece, Spain, Portugal, Ireland, Israel, New Zealand and Iceland.

Two frameworks are used to describe the policies: on one hand, a *deflation episode* is identified (according to Ball's methodology); on the other, a year of *breakdown in inflation* is selected (according to the authors' definition). The behavior of economic policies is evaluated during the *deflation episode*, and before and after the *breakdown in inflation*. The policies judged are: monetary contraction, reduction in public deficit, revaluation of real exchange rate, and reduction of real salaries. Also, the cost of deflation is measured in terms of product growth (sacrifice ratio). Finally, institutional developments important for the achievement of low inflation are mentioned. The paper then compares the Colombian case to the international results and tries to explain why

Colombia has not been able to achieve a one-digit inflation.

\*\*\*\*\*

Conesa Labastida, Andrés  
Secretaria de Hacienda y Crédito Público  
Coordinador de Asesores del C. Subsecretario  
de Hacienda  
Av. Insurgentes Sur # 795 piso 12  
Col. Nápoles - México, D. F. - MEXICO  
Phone: (52-5) 228 10 87  
Fax: (52 5) 228 08 71  
E-mail: [aconesa@schp.gob.mx](mailto:aconesa@schp.gob.mx)

Exchange Rate and Wage Pass-Through:  
Theory and Evidence for the Manufacturing  
Industry in Mexico

This article extends the traditional models of pass-through by allowing domestic firms to make use of foreign inputs. This creates an additional channel by which the exchange rate can affect the price level. In terms of prices measured in foreign currency, the model predicts that the exchange rate pass-through is larger than the wage pass-through. This difference is smaller in more competitive industries and is independent of the relative use of foreign inputs by domestic firms. These predictions are robust for any technological specification and under certain circumstances, for any final good demand function.

The theory is corroborated using information from 47 sectors of the Mexican manufacturing industry. Exploiting the (long-run) cointegration relation between the variables, an empirical analysis is made using an error-correction model. The short-run estimations matched up with the theoretical predictions, while the long-run results suggest that no significant differences exist between the exchange rate and wage elasticities of the equilibrium prices.

\*\*\*\*\*

Cox, Millicent  
7770 Regents Rd. #113-172  
San Diego CA 92122  
Phone: (619) 558 0509  
Fax: (619) 453 7335  
E-mail: mcox@electriciti.com

Cross–Border Labor Market Data  
for Economic Development Analysis:  
The Experience of Baja California / California

The U.S./México border is an area of cross–border labor markets with workers residing in one country and working (legally) in the other. In both countries, there are payroll taxation systems that can be used to measure the number of workers by place of work, and there are surveys that measure the number of workers by place of residence. This paper presents a methodology that is being used for the Baja California/California cross–border labor markets, relying on the published payroll taxation data and the survey data, supplemented by a survey of border crossers. The payroll taxation data provides information on employees by industry. The survey data provides data on the labor force, employment and unemployment. The survey of border crossers is used to provide information on the characteristics of workers who cross the border from residence to work place and also to provide the means of making the adjustments necessary for measuring the total cross–border labor market. There are two cross–border labor markets on the Baja California/California border: the San Diego/Tijuana consolidated metropolitan area (San Diego County USA and Tijuana, Tecate and Playas de Rosarito Municipios México) and the Mexicali metropolitan area (Mexicali Municipio México and Imperial County USA).

\*\*\*\*\*

da Conceição Sampaio de Sousa, Maria  
Universidade de Brasilia  
Universidade Federal de Pernambuco

Ramos, Francisco S.  
Universidade de Brasilia  
Universidade Federal de Pernambuco  
E-mail: fsr@npd.ufpe.br

Measuring Public Spending Efficiency in  
Brazilian Municipalities: A Nonparametric  
Approach

The importance of public expenditure in such social services as education and public health represent a decisive contribution to a nation's progress. A major problem is how to allocate government spending in such a way as to provide public services efficiently. In a political federation as Brazil, the critical issue becomes the choice of the degree of decentralization in the provision of public services. Decentralization is advantageous in the production and distribution of public services due to: i) the proximity of users facilitates the ranking of the priorities; ii) it is easier to control the use of resources; iii) the requirements of managerial capacity are lower.

In this paper we assess the performance of Brazilian municipalities regarding the utilization of public revenue. The paper inquires whether, for a given availability of services, local governments minimize the expenditure needed to finance those services. To answer these questions, a cost-efficiency frontier will be determined by using various techniques of efficiency analysis: two DEA variants, - DEA-F and DEA-V, and the FDH approach.

Our results suggest that the Brazilian recent municipal decentralization policy does not lead to an efficient use of public resources. The outcome of this policy was a proliferation of small municipalities that, due to their size, do not benefit from the economies of scale inherent to the production of certain public services. They tend to operate with higher average costs, thus, bringing about a considerable waste of resources, which can be inferred by estimating the excessive public spending that characterizes those cities.

\*\*\*\*\*

D'Amato, Laura  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina  
Phone: (54-1) 348-3814  
Fax: (541) 348-3557

Grubisic, Elena  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina

Powell, Andrew  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina  
Phone: (54-1) 348-3612  
Fax: (54-1) 348-3662  
E-mail [apowell@BCRA.gov.ar](mailto:apowell@BCRA.gov.ar)

Contagion, Banks Fundamentals or  
Macroeconomic Shock? An Empirical  
Analysis of the Argentine 1995 Banking  
Problems

The literature on bank runs is divided into work suggesting that depositors can discriminate well between good and bad banks and arguments stressing that due to asymmetric information problems, depositors may run on a perfectly good bank when a bad bank in the same system is attacked. This is not simply an academic question but an issue with significant policy implications. If depositors can indeed discriminate and good banks are not subject to erroneous attack, then the role of a wide safety net for bank-creditors (e.g.: unlimited deposit insurance) is reduced. For a number of reasons the problems in the Argentine banking system in 1995 provide a unique and highly appropriate case study to analyze these issues empirically. The focus of this paper is to attempt to delineate from daily deposit-data the effect of bank fundamentals from the importance of contagion from a third possibility, namely the effects of a generalized macroeconomic shock that might affect all banks in the system simultaneously. We argue that indeed we can separate these effects using panel-data techniques. We find a small number of variables that capture individual bank fundamentals and we find several macro variables that are significant. We interpret the

residual co-movement in the data as contagion, and we also estimate interaction effects directly, which appear to eradicate residual co-movement. We find therefore that all three effects were significant in the period and that although bank fundamentals account for 27% of the explained variation in deposits, contagion effects were also present.

\*\*\*\*\*

De Gregorio, José  
Centro de Economía Aplicada  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56 2) 678-4045  
Fax: (56 2) 689-7895  
E-mail: [jdegrego@dii.uchile.cl](mailto:jdegrego@dii.uchile.cl)

Kim, Se-Jik  
Research Department  
International Monetary Fund  
Washington, D. C. 20431  
Phone: (202) 623-4981  
Fax: (202) 623-4740  
E-mail: [skim@imf.org](mailto:skim@imf.org)

Credit Markets with Differences in Abilities:  
Education, Distribution, and Growth

An endogenous growth model is presented in which the existence of credit markets affects time allocation of individuals who differ in education abilities. Credit markets allow the more able to specialize in studying and the less able in working. This specialization can increase growth and welfare by accelerating an economy's human capital accumulation. This paper also shows that in economies with high (low) average level of education abilities, the opening of credit markets will induce a more disperse (equal) income distribution. The role of intergenerational transfers within a family in overcoming the absence of credit markets is also discussed. Finally, we discuss the growth effect of credit markets in the case of imperfect credit markets, where people can save using storage but cannot borrow.

\*\*\*\*\*

Deutsch, Ruthanne

Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577  
Phone: (202) 623-3783  
Fax: (202) 623-2481

Does Child Care Pay? Labor Force  
Participation and Earnings Effects of Access  
to Child Care in the *Favelas* of Rio de Janeiro

This study undertakes an econometric analysis of data on child care services usage and labor force participation drawn from a survey of 1720 households in 15 *favelas* or slums in Rio de Janeiro. The analysis examines the impact that access to childcare services has on female labor force participation and final earnings.

\*\*\*\*\*

Duryea, Suzanne  
Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577  
Phone: (202) 623-3783  
Fax: (202) 623-2481

Children's Advancement through School in  
Brazil: The Role of Transitory Shocks to  
Household Income

This paper investigates the effects of short-run economic shocks on children's progress through school in urban Brazil using a unique panel data set. The severe problem of grade repetition in Brazil contributes to overall low levels of educational attainment. Of children ages 10-15 who are enrolled in school, only 69% advance on average to the next grade. This paper investigates whether children's effort on schoolwork is diminished when fathers experience a transitory shock to income. The results suggest that children's time is used to buffer short-run economic shocks to the household, which is consistent with models of education incorporating assumptions of imperfect credit markets.

\*\*\*\*\*

Engel, Eduardo  
Fischer, Ronald  
Galetovic, Alexander  
Centro de Economía Aplicada  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895

Least-Present-Value-Of-Revenue Auctions  
and Highway Franchising

This paper presents a model for studying auctions of highway franchises. We assume the regulator is not allowed to make transfers to the franchise holder, demand for the highway is stochastic, firms are unable to diversify risk completely due to agency problems, and highways may become congested.

We characterize the socially optimal risk sharing contract and show that it can be implemented with a Least Present Value of Revenue (LPVR) auction, that is, an auction where firms bid the present value of toll revenue they require to build and maintain the road. The optimal auction does not require that the regulator know firms' construction costs. We also show that fixed-term franchises currently in use are suboptimal. Furthermore, for demand uncertainty and risk aversion parameters typical of developing countries, welfare gains associated with substituting a LPVR auction for a fixed-term auction are large (e.g., one third of the cost of the highway).

\*\*\*\*\*

Engel, Eduardo  
Centro de Economía Aplicada  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895  
E-mail: [eeengel@dii.uchile.cl](mailto:eeengel@dii.uchile.cl)

Galetovic, Alexander  
Centro de Economía Aplicada  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895  
E-mail: [agaleto@dii.uchile.cl](mailto:agaleto@dii.uchile.cl)

Raddatz, Claudio  
Centro de Economía Aplicada  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895  
E-mail: [craddatz@dii.uchile.cl](mailto:craddatz@dii.uchile.cl)

#### Tax Reform and Income Distribution in Chile

Achieving equitable income distribution through tax changes continues to be part of the public debate. This paper evaluates the current Chilean tax structure, which took effect in 1996. Our results indicate that drastic changes in the tax structure do not alter in any significant way after-tax income distribution. We argue that income redistribution should come about through social spending rather than tax collecting and that the emphasis should be on establishing an efficient means of collection without being concerned about the impact of taxes on income distribution. It is not certain that a drastic reduction of the maximum marginal income tax rate (for example to 30%) increases inequality significantly. We show that more than half of the improvements in income distribution is due to IVA while less than 20% are the consequence of income tax. We present policy recommendations as a result of our analysis.

\*\*\*\*\*

Ffrench-Davis, Ricardo  
Principal Regional Advisor  
ECLAC  
Casilla 179-D  
Santiago-Chile  
Phone: (56-2) 210-2555  
Fax: (56-2) 208-1801  
E-mail: [rffrenchdavis@eclac.cl](mailto:rffrenchdavis@eclac.cl)

#### Reforming the Reforms in Latin America: Trade, Finance, and Macroeconomics

Economic reforms have proceeded at a fast pace across Latin America in the 1990s. One of the main objectives of reforms has been to improve the environment in order to achieve a sustainable higher GDP growth. Notwithstanding, the output has been poor. Serious problems remain in terms of inequity, low formation of productive capacity, and some macroeconomic imbalances (particularly in the external sector).

There is a wide variety of paths chosen by LACs in the design of their structural reforms and economic policies. However, there are some distinct features that imply significant shortcomings of the first generation reforms. We examine strong features of macroeconomic policy-making, trade liberalization, capital flows and financial reforms that help explain why growth performance has been poor on average. We stress that what happens during the transition to new equilibria makes a crucial difference (particularly, the hysteresis effects on the flows of human and physical capital). We also stress that *naïve* reforms may have an extremely long and costly adjustment period, given the presence of imperfect and incomplete markets and the heterogeneity in the capacity of different economic agents to respond to reforms and policy changes. The work concludes with a brief summary of the main conclusions of each of the chapters.

\*\*\*\*\*

Fuentes, Noé Arón  
P.O. Box  
Chula Vista, Ca. 91912-1257  
Phone: (66) 31 35 35  
Fax: (66) 31 35 56  
E-mail: [Afuentes@colef.mx](mailto:Afuentes@colef.mx)

Brugués Rodríguez, Alejandro  
P.O. Box  
Chula Vista, Ca. 91912-1257  
Phone: (66) 31 35 35  
Fax: (66) 31 35 56  
E-mail: [Abrugues@colef.mx](mailto:Abrugues@colef.mx)

#### Testing of Long-Run Purchasing Power Parity Using Alternative Methodologies: The Mexican Case

This study examines the empirical evidence on Purchasing Power Parity (PPP) for Mexico and its major trading partners for the flexible exchange rate era (1980:1-1998:1). The PPP hypothesis is examined by applying the Perron (1989) methodology to real exchange rate. Since there is a great deal of confusion in the literature regarding the appropriate definition of real exchange and the appropriate choice of price indices, we use twelve measures of real exchange rate. The traditional definition considers the nominal exchange rate times the relative prices at home and abroad. A modification of the traditional definition uses the effective real exchange rate defined as a weighted average of bilateral exchange rates times the ratio of weighted average of foreign prices to domestic price level. Another definition of real exchange rate is a weighted average of cost-of-production indices. Moreover, another definition of real exchange rate is based on the difference between the nominal rates of interest on assets denominated in the two currencies. We conduct tests of PPP using Perron's (1989) method, which accommodates a one-time structural break. We allow for three potential one-time structural breaks. These correspond to the debt crisis in June 1982, the liberalization program in March 1985, and the integral stabilization program of December 1987. Our finding offers stronger evidence against PPP. Of the twelve measures of real exchange rate tested, only the one defined as nominal exchange rate times the ratio of a

weighted average of cost-of-production seems to be stationary as predicted by PPP.

\*\*\*\*\*

Fullerton, Jr., Thomas M.  
Department of Economics and Finance &  
Texas Center for Border Economic  
Development  
University of Texas at El Paso  
El Paso, TX 79968-0543  
Phone: (915) 747-7747  
Fax: (915) 747-6282  
E-mail: [tomf@utep.edu](mailto:tomf@utep.edu)

#### Cross Border Business Cycle Impacts on Commercial Electricity Demand

Border region utilities face unique circumstances in attempting to assess overall business and load demand conditions. The latter results from the multiple sets of business cycle conditions facing these entities as a consequence of operating near international political boundaries. A basic question arises with respect to whether international economic fluctuations can be systematically incorporated into electricity demand models. Along the United States border with Mexico, this problem is further complicated by the economic interactions between an advanced economy and a developing country wherein data constraints exist at the regional level of disaggregation for the latter. Transfer function ARIMA analysis is utilized to examine whether commercial electricity sales in El Paso, Texas respond to the national and metropolitan business cycles affecting economic performance in Ciudad Juarez, Chihuahua in Mexico. Together, these cities form one of the largest international urban economies in the world and provide a good test case within which to consider the questions raised in the paper.

\*\*\*\*\*

Ganapolsky, Eduardo J. J.  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina  
Phone: (54-1) 348-3814  
Fax: (541) 348-3557

Schmukler, Sergio  
Banco Central de la República Argentina  
Reconquista 266  
Buenos Aires, Argentina  
Phone: (202) 458-4167

The Impact of Policy Announcements and  
News on Capital Markets: Crisis Management  
in Argentina During the Tequila Effect

The Mexican crisis of 1994-5 had strong contagion effects on Argentina: the peso came under attack and there was a run on bank deposits. Argentina successfully announced a series of policies to reverse the spillover effects, without abandoning its currency board. This paper studies how capital markets reacted to each policy announcement and news. We find that the agreement with the International Monetary Fund, the dollarization of reserve deposits in the Central Bank, and the change in reserve requirements, among other measures, had a strong positive impact on market returns. We also find that after a period of higher volatility, the change of the finance minister significantly decreased the variance of stock and bond market returns, while lower reserve requirements increased the volatility in the capital markets. In conclusion, the markets welcomed announcements that reflected the adoption of credible policies and that demonstrated a firm commitment to the currency board.

\*\*\*\*\*

Gelos, Gaston  
Dirección General de Investigación  
Económica  
Banco de México  
5 de Mayo, No. 18, 3er piso,  
Col. Centro -06059- México, D. F.  
Phone: (525) 237 25 73

Werner, Alejandro M.  
Dirección General de Investigación  
Económica  
Banco de México  
5 de Mayo, No. 18, 3er piso,  
Col. Centro -06059- México, D. F.  
Phone: (525) 237 25 73  
Fax: (52-5) 237 26 87  
E-mail [awemer@banxico.org.mx](mailto:awemer@banxico.org.mx)

Fixed Investment in the Mexican  
Manufacturing Sector, 1985-94: The Role of  
Financial Factors and the Impact of Financial  
Liberalization

This paper studies the effects of financial factors, such as cash flow and the value of a firm's collateral, on fixed investment in the Mexican manufacturing sector. To this end, we use the Annual Industry Poll, compiled by INEGI. In a first analysis, the effect of a wide range of macroeconomic variables on investment is examined. The results indicate that the relationship between real interest rate and investment changes from positive to negative after the start of financial liberalization. In the main part of this study, we analyze the importance of restrictions on financing, investigating the effect of the cash flow and the value of real estate (as a measure of collateral) on the formation of fixed capital. Non parametric estimates point to a clear relation between the cash flow and investment. The results from a standard method, in which the cash flow is included in conventional investment regressions, indicate that liquidity restrictions influence investment in an important way, especially in the case of small firms. These kinds of firms, particularly the exporting ones, seem to have been the most favored by financial liberalization. Using a novel approach, we take into account the high number of observations with zero investment and the possibility of the existence of fixed

costs in the investment process. A Tobit model was estimated with fixed effects including besides the cash flow, the value of the real estate owned by the firm as a measure of the warranty the firm has. The work concludes that the value of the firms' real estate has a very significant influence on investment and that the importance of these types of warranties grew after the financial liberalization. Due to this, we conclude that liberalization was translated not so much in a gradual reduction of the over rate of the costs of external funds over the costs of internal funds but mainly in more liquidity in the economy, which only then allowed many firms access to credit.

\*\*\*\*\*

Gershberg, Alec Ian  
Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577  
Phone: (202) 623-3783  
Fax: (202) 623-2481

Decentralization and Recentralization: Lessons from the Social Sectors in Mexico and Nicaragua

This study is designed to help practitioners prepare and evaluate institutional reforms for education and health programs. It provides an analytic framework for use by public officials and researchers with case studies that illustrate a wide range of actual practices and a set of lessons learned. The framework uses the concept of accountability to link the broad goals of reform to the key dimensions of organizational arrangements. The case studies, based on fieldwork in Mexico and Nicaragua, demonstrate a wide variety of available policy instruments. Significantly, they also demonstrate that the responses to these instruments are equally varied: creative interpretation of central regulations by local officials, self governing schools that complement public funds with resources mobilized by fees, and the reassertion of national control over previously decentralized health programs. A lot of attention is paid to the how of reform; the

process of implementation is at least as important as the question of what is to be reformed. The lessons derived from these experiences emphasize contingent, rather than absolute, recommendations. Overall, the study suggests how democracy in the management and delivery of social services requires a careful balance of centralization and success in achieving greater efficiency, equity and decentralized responsibilities.

\*\*\*\*\*

Goldfajn, Ilan  
International Monetary Fund  
Washington, D. C. 20431  
Phone: (202) 623-7000  
Fax: (202) 623-4740

Public Debt Indexation and Denomination:  
The Case of Brazil

The paper models the optimal debt management strategy of the public sector when issuing nominal, price level indexed and foreign denominated debt securities. The model predicts that the variance of inflation, the size of the public debt, the variance of the real exchange rate, and the correlation of inflation with public expenditures are the main determinants of public debt management. Using this framework, the paper analyzes the Brazilian experience with indexed debt in the last decade. In particular, it explains the large increase of indexed public debt in Brazil prior to the Real Plan of 1994 and its steady decrease thereafter.

\*\*\*\*\*

Goldfajn, Ilan  
International Monetary Fund  
Washington, D. C. 20431  
Phone: (202) 623-7000  
Fax: (202) 623-4740

Valdés P., Rodrigo  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
E-mail: [rvaldesx@bcentral.cl](mailto:rvaldesx@bcentral.cl)

#### Balance of Payments Crises and Capital Flows: The Role of Liquidity

A model of external crises is developed focusing on the interaction between liquidity creation by financial intermediaries and foreign exchange collapses. The intermediaries' role of transforming maturities is shown to result in larger movements of capital and a higher probability of crises. This resembles the observed cycle in capital flows: large inflows, crises, and abrupt outflows. The model highlights how adverse productivity and international interest rate shocks can be magnified by the behavior of individual foreign investors linked together through their deposits in the intermediaries. An eventual collapse of the exchange rate can link investors' behavior even further.

\*\*\*\*\*

Gómez, Javier  
Banco de La República  
Carrera 7a No. 14-78 Piso 6°  
Bogotá, Colombia  
Phone: (57-1) 342-1111  
E-mail: [jgomezpi@banrep.gov.co](mailto:jgomezpi@banrep.gov.co)

#### The Cost of Inflation in Colombia

In this work, we calculate the welfare cost of inflation in Colombia and the impact a 10% reduction in inflation has on welfare cost. We consider two effects of inflation on welfare, the level effect and the growth effect. In order to calculate the level effect, we apply various theoretical models to the Colombian situation and in order to have an idea of the magnitude

of the growth effect we take a look at the theoretical and empirical literature. We then translate the growth effect to a base comparable to the level effect.

We conclude that the growth effect is the most important. The welfare cost of the inflation is around 4% of consumption.

\*\*\*\*\*

#### The Demand for Money in Colombia

In this paper we estimate the demand for money in Colombia introducing a variable for financial innovation. Upon introducing the financial innovation, we obtain a cointegrating vector that can be interpreted as a money demand function inasmuch as the coefficients are theoretically plausible. We show that if the financial innovation is not included, there is a specification error in the model. We prove that the demand for money is homogeneous and as such can be interpreted in a variety of forms, one of which is as a quantity theory of money. The tests for weak exogeneity indicate that the endogenous variable is money. Therefore, in Colombia the quantitative equation can be interpreted in the context of Friedman (1956), that is to say, as a theory of the demand for money. Finally, we estimate the velocity of M1 and M0 as a function of the interest rate and financial innovation. Throughout the paper, we apply a technique of great usefulness in econometrics – that of a geometric mean.

\*\*\*\*\*

#### The Interest Rate Spread in a Variation of the Intermediation Approach to Banking Output

We write down a model of the banking firm in the macroeconomy intended to explain what determines the interest rate spread. The model emphasizes the resource cost of capital as the main component of the spread. The modeling of the resource cost of capital requires appropriate attention to the definition of banking output. As current definitions of banking output are not satisfactory, we propose a variation of the intermediation approach where banking output is not saving but the intermediation of saving.

The main implication of the model is that the interest rate spread is higher the higher the resource cost of capital. As the resource cost of capital is higher where capital is scarce, we empirically find an inverse relationship between the interest rate spread and the (log of) GNP per capita for the world economy and also for the members of the European Monetary Union.

\*\*\*\*\*

Gould, David  
Senior Economist and Policy Advisor  
Federal Reserve Bank of Dallas  
Center for Latin American Economics  
2200 North Pearl  
Dallas, Texas 75201  
Phone: (214) 922-5163  
Fax: (214) 922-5194  
E-mail: david.m.gould@dal.frb.org

Balke, Nathan  
Federal Reserve Bank of Dallas and  
Southern Methodist University

Ruffin, Roy  
Federal Reserve Bank of Dallas and  
University of Houston

#### Are International Capital Flows Destabilizing?

This paper investigates the role of international capital flows in the transmission of foreign economic shocks. Over the last two decades OECD countries have experienced an unprecedented increase in both the growth and volatility of international capital flows. From 1985 to 1996 OECD international capital flows increased 5-fold to 2.9 trillion dollars a year, while the volatility of these gross capital flows has more than doubled. Recent increases in the volatility of international capital flows, however, has induced some economists, such as James Tobin and Jagdish Bhagwati (Bhagwati, 1998), to question whether free capital movements are as beneficial as free trade. Although capital flows may ultimately go to the most productive uses in the long run, increased volatility may suggest that international capital flows in the near-term are driven more by herd

behavior than economic fundamentals. We do not directly test the hypothesis that capital flows are motivated by herd behavior, but rather examine whether the recent pattern of international capital flow and its volatility can be explained by standard economic theory. We develop a model that attempts to capture the relationship between declining costs of international capital movements and the volatility of international capital flows. In doing so, we can examine relationship between international capital flow volatility and the volatility of the domestic economy. We also assess the extent to which varying capital controls can limit volatility of key macroeconomic variables. We find that recent increases in the volume and volatility of international capital flows can be consistent with recent capital account liberalizations and financial innovations that have decreased costs in international capital markets. Moreover, while imposing capital controls on foreign investment in small countries can decrease the volatility of net capital flows, it does little to decrease the volatility of consumption or income.

\*\*\*\*\*

Gould, David  
Senior Economist and Policy Advisor  
Federal Reserve Bank of Dallas  
Center for Latin American Economics  
2200 North Pearl  
Dallas, Texas 75201  
Phone: (214) 922-5163  
Fax: (214) 922-5194  
E-mail: david.m.gould@dal.frb.org

Marion, Justin  
Federal Reserve Bank of Dallas  
2200 North Pearl  
Dallas, Texas 75201  
Phone: (214) 922-5178  
E-mail: justin.marion@dal.frb.org

#### Measuring the Real Value of Latin American Currencies

This paper uses a broad set of 65 countries to construct a new series of trade weighted real exchange rate indexes for Argentina, Brazil, Chile, and Mexico. These

indexes should provide information on exchange rate misalignments, export competitiveness, and other international trade issues. Trade weights are based not only on bilateral trade flows, but also on trade flows in competing third-country markets. The relative size of domestic and foreign non-traded goods markets is also incorporated into the weighting scheme. Movements in the index differ substantially from changes in the bilateral dollar real exchange rate, but among broader bilateral or multilateral indexes, the choice of the weighting scheme seems to have only a marginal effect. The choice of the appropriate price index and partner country sample has a much larger impact on the movements of a country's index.

\*\*\*\*\*

Gourinchas, Pierre-Olivier  
Princeton University  
E-mail: pog@gsb.stanford.edu

Valdés P., Rodrigo  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
E-mail: rvaldesx@bcentral.cl

Landerretche, Oscar  
Economista  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231  
E-mail: olanderr@condor.bcentral.cl

Lending Booms: Some Stylized Facts

This paper empirically analyzes a large sample of lending boom episodes. After appropriately, defining a boom episode we seek to characterize the stylized facts surrounding these events. We investigate their duration and whether they show time and geographic agglomeration. We also analyze the performance of a set of macroeconomic indicators around episodes and their relation to

the existence of banking crises and external disequilibrium. The set of stylized facts that we identify is useful both to evaluate how harmful lending booms are and to confront different stories that explain these episodes.

\*\*\*\*\*

Griffth-Jones, Stephany  
Institute of Development Studies  
University of Sussex  
Brighton BN1 9RE, United Kingdom  
Phone: (44-1273) 606261  
Fax: (44-1273) 621202/691647  
E-mail: ids@sussex.ac.uk

Cailloux, Jacques  
Pfaffenzeller, Stephan  
Institute of Development Studies  
University of Sussex  
Brighton BN1 9RE, United Kingdom

The East Asian Financial Crisis: A Reflection  
on Its Causes, Consequences and Policy  
Implications

This paper looks into the causes and the economic and social implications of the East Asian currency crisis. It discusses various approaches to policy design for crisis prevention and better crisis management. Focusing first on the desirability of capital account liberalization and the preconditions for its economic viability, the discussion proceeds to the topic of international prudential supervisory standards and risk weighted capital charges. With respect to crisis management, the focus is not restricted to adequate liquidity provision but also extends to desirable orderly work-out procedures and thus for private sector participation in burden sharing. We finally look at the need for further research into this area.

\*\*\*\*\*

Hausmann, Ricardo  
Chief Economist  
Inter-American Development Bank  
1300 New York Ave., N. E.  
Washington, D.C. 20577  
Phone: (202) 623-2843  
Fax: (202) 623-2843  
E-mail: [ricardoh@iadb.org](mailto:ricardoh@iadb.org)

Gavin, Michael  
Lead Research Economist  
Office of the Chief Economist  
Inter-American Development Bank  
Washington, D.C. 20577  
Phone: (202) 623-2864  
Fax: (202) 623-2481  
E-mail: [michaelga@iadb.org](mailto:michaelga@iadb.org)

Nature, Development and Distribution in Latin America: Evidence on the Role of Geography, Climate and Natural Resources

Compared to industrial economies, Latin America suffers from a scarcity of capital and enjoys an abundance of unskilled workers. However, in the global economy of the 1990s, Latin America is far from the most labor abundant and capital poor region. That honor belongs to the economies of emerging East Asia. Latin America is special because of its enormous endowment of natural resources. The impact of this endowment was clearly felt in many countries of the region, as economic liberalization was followed by rapid growth of foreign investment and exports of natural-resource intensive products with a much more modest growth of labor-intensive manufacturing industries.

During the 1990s, the economics profession has been gaining a new appreciation for the impact of geography and natural resource endowments on patterns of economic development. This appreciation has been spurred in large part by the influential paper by Sachs and Warner (1995), which documented their finding that resource-poor economies often vastly outperform resource rich economies in economic growth, even after accounting for other determinants of economic growth. More recently, Gallup and Sachs (1998) provide convincing evidence that tropical countries grow substantially more slowly than do countries in subtropical and

temperate climates, that landlocked countries grow more slowly than do countries where most of the population is along a coastline, and that the distance of a country from major centers of economic activity hurts economic development.

This work deals with important questions about recent Latin American experiences: What does increased reliance upon natural resource-based industries mean for development prospects and for the distribution of income? What are the consequences for economic growth, income distribution, and economic instability?

\*\*\*\*\*

Herrera, B. Luis Oscar  
Gerente de Programación Macroeconómica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Indexation, Inflationary Inertia, and Sacrifice Coefficient

The objective of this paper is to examine the relation between automatic price and salary indexation and the cost of reducing inflation. The analysis complements previous work done by Ball (1994, 1995), Bonomo and Garcia (1995), and Jadresic (1995, 1996) but with an emphasis on the consequences of the frequency of indexation and other characteristics of labor contracts on the sacrifice coefficient. Calvo's (1983) supply equation is extended to include automatic readjustability clauses relating to past inflation, and responses of the economy to various monetary stabilization experiments are simulated. The results suggest that indexation introduces inertia in the inflationary process and therefore increases the sacrifice coefficient. Interestingly, the relation between the frequency of indexation and the cost of stabilization is not monotonic. A greater indexation frequency can reduce the sacrifice coefficient. The examples studied suggest that with biannual wage contracts, the typical structure observed in Chile, the sacrifice coefficient is maximized with six-month

readjustment frequency, the typical frequency observed in Chile.

\*\*\*\*\*

Herrera, B. Luis Oscar  
Gerente de Programación Macroeconómica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Magendzo W., Igal  
Economista  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Financial Expectations and the Forward  
Interest Rate Curves for Chile

The goal of this paper is to develop a methodology to estimate the forward interest rate curves for Central Bank bonds. The paper uses the methodology proposed by Nelson and Siegel (1987) based on a parametric model of the forward curve. An advantage of this parametric estimation is that -with a reduced number of parameters- it is flexible enough to describe the different shapes that term structure typically takes.

\*\*\*\*\*

Iaryczower, Matías  
Centro de Estudios para el Desarrollo  
Institucional  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina

Saiegh, Sebastián  
CEDI &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina

Tommasi, Mariano  
Centro de Estudios para el Desarrollo  
Institucional  
(Fundación Gobierno y Sociedad) &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina  
E-mail: [tommasi@udesa.edu.ar](mailto:tommasi@udesa.edu.ar)

Designing Institutions under Political  
Constraints : Some Ideas for a New Federal  
Fiscal Game in Argentina

This paper uses a transaction-cost theory of politics to suggest an institutional design, which could morigerate the inefficiencies of the Argentine federal tax-sharing agreement.

The deficiencies of the current regime are due to the fact that political actors have been unable to strike efficient political bargains. Following the logic of Coase (1937 and 1960), North (1990) and Dixit (1996), we argue that such inability was due to problems in the definition of political property rights and to transaction costs in the political market.

We suggest some principles that could guide the construction of the new tax-sharing regime (and of the institutions to support such regime) in order to achieve a governance structure that would help reduce the transaction costs. The purpose is to create an institutional framework in which political actors could negotiate among themselves, ensuring the enforceability of agreements in order to achieve more efficient outcomes.

\*\*\*\*\*

Isgut, Alberto E.  
Department of Economics  
Wesleyan University  
Middletown, CT 06459  
Phone: (860) 685-3958  
Fax (860) 685-278 1  
Email. aisgutCa wesleyan.edu.

### Developing Countries' Borrowing in the International Financial Market: Where is the Ceiling?

The formulation of an optimal international borrowing policy requires knowledge of the maximum stock of financial assets issued by the country that international investors wish to hold in their portfolios. But this quantity is, in practice, unknown. This paper suggests that over-optimistic expectations about a country's access to the international financial market can, by themselves, lead to excessive current account deficits and greater vulnerability to external crises. Additionally, if there exists a risk that international investors decide to stop increasing their exposure to the country's assets, a reserve requirement on short-term capital inflows can move the economy closer to the optimal.

\*\*\*\*\*

### Does Exporting Improve Plant Performance in Developing Countries?

Two of the main arguments in favor of export-oriented trade policies (scale economies and reduction of X-inefficiencies) imply a causal relationship between exporting and some characteristics of plant performance. This paper investigates whether the act of exporting leads Colombian plants to increases in plant size, labor productivity, capital intensity, and wages compared to plants that never export. The results show that Colombian exporters have significant advantages in these characteristics even before exporting for the first time. Although entry into the export market in itself does not guarantee success, the performance of plants that kept exporting regularly after entry has been outstanding. The results suggest that Colombian plants have

much to learn and gain from their exposure to international competition.

\*\*\*\*\*

Issler, João Victor  
Graduate School of Economics – EPGE  
Getulio Vargas Foundation  
P. Botafogo 190 s. 1125  
Rio de Janeiro, RJ 22253-900, Brazil  
E-mail: jissler@fgv.br

Pegurier, Fabiano J. H.  
Graduate School of Economics – EPGE  
Getulio Vargas Foundation  
P. Botafogo 190 s. 1125  
Rio de Janeiro, RJ 22253-900, Brazil

### Inflation, Macroeconomic Uncertainty, and Welfare in Latin America: An Econometric Investigation

The relationship between inflation and growth is a very subtle one. From a theoretical point-of-view, several models deliver contradictory results. Empirical evidence is not conclusive either: although there is some evidence that inflation and growth are negatively correlated if inflation is higher than 40% a year, there is still controversy over lower inflation levels and over the relationship between inflation level and uncertainty. This paper uses panel data for Latin American countries to examine empirically (i) if there is a negative relationship between inflation and growth, (ii) if inflation affects growth through its effect on economic uncertainty, and (iii) what are the welfare costs of inflation. The choice of Latin America is justified based on the region's diversity of inflation rates although culture and development stage do not vary much. Maximum-likelihood estimates show that there is a negative relationship between inflation and growth operating through the effect of inflation on macroeconomic uncertainty. This is corroborated by the evidence that inflation level and uncertainty are also positively correlated. Under our econometric estimates, the welfare costs of inflation can be substantial. For example, even if inflation is at most 10% a year, its welfare costs can be as high as 3.3% of consumption

every year. For high inflation countries, if we use a discount rate of 5% a year, and a coefficient of relative risk aversion of two, the welfare costs of inflation can be as high as 10% of consumption every year.

\*\*\*\*\*

Jadresic, Esteban  
Economist  
Research Department  
International Monetary Fund  
Western Hemisphere Department  
700 19th Street, N.W.  
Washington, D. C. 20431  
Phone: (202) 623-7000

The Macroeconomic Consequences of Wage Indexation Revisited

Since the mid-1970s, there has been considerable research on the macroeconomic consequences of wage indexation. Nonetheless, until recently, this research had not explored explicitly the implications of contracts that index wages to lagged inflation, the usual type of wage indexation observed in practice. Drawing mainly on recent research by the author, this paper examines the consequences of wage indexation to lagged inflation on aggregate wage formation, the cost of disinflation under money and exchange-rate-based stabilization, the variability of output under alternative shocks and policy regimes, the choice of exchange-rate regime, and the level and variability of inflation.

\*\*\*\*\*

Jones, Mark  
Michigan State University  
East Lansing, MI 48824

Sanguinetti, Pablo  
Universidad Torcuato Di Tella  
Miñones 2159/77  
1428 Buenos Aires, Argentina  
Phone: (54-1) 784-5872

Tommasi, Mariano  
Centro de Estudios para el Desarrollo  
Institucional  
(Fundación Gobierno y Sociedad) &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina  
E-mail: tommasi@udesa.edu.ar

The Politics of Fiscal Performance in  
Decentralized Settings: The Case of Argentina

Following *the new political economy*, we view the determination of fiscal choice as a *common pool game*. We apply this theoretical view to study the fiscal performance of the Argentine provinces. Given the considerable economic and political inter-dependence across levels of government in Argentina, we posit that the fiscal behavior of Argentine provinces is determined by a common pool game at two levels: within each province, and across political units (including the provinces and the national government). In the latter game, the national government has a greater incentive than the provincial governments to internalize the negative externality of fiscal imprudence. Given relatively strong party discipline, the president is able to induce governors from his party to internalize a portion of the externality to a greater extent than opposition governors. In Argentina *party matters* for fiscal behavior, but it does so for reasons different from those identified in previous studies.

\*\*\*\*\*

Kamin, Steven B.  
Division of International Finance  
Board of Governors of  
the Federal Reserve  
20th & C Street, N.W.  
Washington, D.C., 20551  
Phone: (202) 452-3665

von Kleist, Karsten  
Bank for International Settlements  
CH-4002 Basle, Switzerland  
Phone: (41-61) 280-8080

The Evolution and Determinants of Emerging  
Market Credit Spreads in the 1990s

This paper develops measures of emerging market credit spreads for the 1990s, based on data on new bond issues and bank loans, that cover a broader range of borrowers than the Brady bond spreads most commonly used to date. These measures are used to identify the impacts of credit ratings, maturity and currency denomination on spreads. We find important regional differences in spreads across the developing world, even after controlling for risk and maturity. We also identify the evolution of spreads during the 1990s, holding other determinants constant, and we find that emerging market spreads declined by more than can be explained by improvements in risk. However, for emerging market instruments with relatively favorable credit ratings, trends in spreads differed considerably from those experienced by Brady bonds. Finally, and in contrast to much market commentary, we find that variations in industrial country short-term interest rates explain relatively little of the recent decline in emerging market bond spreads. Longer-term trends, perhaps reflecting globalization, along with the temporary impact of the Mexican financial crisis may have been more important factors in the recent behavior of emerging market spreads.

\*\*\*\*\*

Kaminsky, Graciela  
Division of Monetary Affairs  
Board of Governors of  
the Federal Reserve  
Washington, D. C. 20551  
Phone: (202) 736-5644  
Fax: (202) 452-2301  
E-mail: m1glk99@frb.gov

Reinhart, Carmen M.  
University of Maryland  
College Park, Maryland 20742  
Phone: (301) 405-7006  
Fax: (301) 403-8107  
E-mail: creinhart@puafmail.umd.edu

The Twin Crises: The Causes of Banking and  
Balance-of-Payments Problems

In the wake of the ERM and Mexican currency crises and the turmoil in Asia, the subject of currency crises has come to the forefront of academic and policy discussions. This paper analyzes the links between banking and currency crises. We examine many crisis episodes and find that: problems in the banking sector typically precede a currency crisis; the currency crisis, in turn, deepens the banking crisis, activating a vicious spiral; financial liberalization often precedes banking crises; and the anatomy of these episodes points to common macroeconomic causes. The crises occur as the economy enters a recession, following a prolonged boom

\*\*\*\*\*

Lamarche, Carlos  
Porto, Alberto  
Sosa Escudero, Walter  
Universidad de La Plata  
Departamento de Economía  
Calle 48 No. 555, CP 1900  
La Plata, Argentina  
Phone: (54-21) 22-9383

Regional Unemployment in Argentina

This paper explores the problem of unemployment in Argentina from a regional perspective. The magnitude of regional disparities is quantified and their determinants are analyzed. The most important result is that

unemployment is determined by both nation-wide and region-specific factors. Regional demand composition, product mix, market size and per-capita income are all important factors explaining regional differences.

\*\*\*\*\*

Landerretche, Oscar  
Economista  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231  
E-mail: [olanderr@condor.bcentral.cl](mailto:olanderr@condor.bcentral.cl)

Lefort, Fernando  
Pontificia Universidad Católica  
Casilla 274-V, Correo 21  
Santiago, Chile  
E-mail: [Flefort@volcan.facea.puc.cl](mailto:Flefort@volcan.facea.puc.cl)

Valdés P., Rodrigo  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
E-mail: [rvaldesx@bcentral.cl](mailto:rvaldesx@bcentral.cl)

#### Causes and Consequences of Indexation: A Survey of the Literature

Indexation is common practice in both developed and developing countries. During recent years, however, many less developed economies that have implemented relatively successful stabilization plans have included as part of the reform package wage nominalization and/or the use of the exchange rate as a nominal anchor. On the other hand, indexation of financial instruments, a practice that used to be the result of high inflation periods, has become a fashionable practice in more developed economies. This survey examines theoretical and empirical literature on three different types of indexation: wage, financial, and exchange-rate indexation. In contrast to other survey articles, our revision unifies the analysis of indexation in these three markets. First, we analyze the origin of each

type of indexation as well as their effects on the particular market where it is being applied, and on the economy as a whole. Second, we analyze the effect of each type of indexation on the inflation process, the economic authority's willingness to disinflate, and the costs of disinflating.

\*\*\*\*\*

Lefort, Fernando  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

#### Economic Growth in Chile: Panel Evidence

This paper evaluates the growth performance of the Chilean economy in comparison to a wide sample of countries. The paper uses a determinants-of-growth approach to compare the growth performance of Chile before and after 1975. The post 1975 period is associated with the implementation of economic reforms. The paper features a correct treatment of the individual effects and endogeneity problems associated with the estimation of cross-country growth regressions and the decomposition of the determinants of growth between structural ones and those related to economic reform. The paper shows that although the Chilean economy has notably increased its growth rate during the last twenty years, this has only meant a reduction in the existing growth gap between Chile and East Asian economies. The paper also shows that the increase in the average growth rate after 1975 is well explained by the direct effect of economic reform, while the individual effect for Chile has changed very little.

\*\*\*\*\*

#### Relative Price Shocks and Inflation: Weighted Median as an Indicator of Core Inflation in Chile

Relative price shocks with zero mean can affect measured inflation in the presence

of non-convex adjustment costs, if core inflation is different from zero or the distribution of the shock is asymmetric. In such cases, central tendency measures of the shock's distribution are a better measure of core inflation.

The purpose of this paper is to calculate and evaluate the properties of the weighted median as an indicator of core inflation in Chile. This paper analyzes the cross sectional distribution of price changes in Chile. It is shown that this distribution is very asymmetric and that the degree of asymmetry is an important explanatory variable of actual inflation. In comparison to CPI and more traditional measures of core inflation, the weighted median is more correlated to past innovations in monetary aggregates and constitutes a better predictor of future inflation.

\*\*\*\*\*

Leon, Javier  
Senior Economist  
Inter-American Development Bank  
STOP W-0314  
1300 New York Avenue, N.W.  
Washington, D.C. 20577  
Phone: (202) 623-1769  
Fax: (202) 623-2152  
E-mail: javierl@iadb.org

Oliva, Carlos  
Economist  
Inter-American Development Bank  
STOP W-0314  
1300 New York Avenue, N.W.  
Washington, D.C. 20577  
Phone: (202) 623-1769  
Fax: (202) 623-2152  
E-mail: carloso@iadb.org

#### Determinants of the Exchange Rate Regime A Time Series Analysis for Chile

The objective of this paper is to examine the determinants of the exchange rate regime within a time series approach, in order to overcome limitations of the cross-section approach. The former approach is based upon the assumption that policy makers would not change the regime until the long term benefits

would exceed the cost of the switch. This would imply some inertia in regimes that will be better captured by a time series analysis. The empirical results show that: (i) Chile opted for a fixed exchange rate regime as an anchor when domestic inflation was relatively high with respect to world inflation and (ii) Minimizing real consumption variability rather than real output variability was a dominant target for Chilean authorities, with domestic monetary disturbances favoring a more flexible arrangement while real shocks were absorbed by changes in the balance of payments supporting a fixed regime.

\*\*\*\*\*

Londoño, Juan Luis  
Frenk, Julio  
Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577  
Phone: (202) 623-1000

#### Structured Pluralism: Towards an Innovative Model for Health System Reform in Latin America

This paper begins with a brief analysis of the principal challenge that confronts the population and the healthcare institutions in Latin America. It conceptualizes a health system based on a series of key relations and functions. This mark of reference will serve in order to identify and compare the principal models of organization of the existing health system and the possible options to reform them.

The paper then analyses the key instruments of available policy in order to carry out the process of reform. Finally the paper revises the strategies in order to succeed in enhancing the political viability of the reforms.

\*\*\*\*\*

Magendzo W., Igal  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

#### Inflation and Inflationary Uncertainty in Chile

The purpose of this paper is to determine whether higher levels of inflation have been accompanied by higher levels of inflationary uncertainty in the Chilean economy. Modern economic theory has stressed the costs of inflationary uncertainty as well as the costs of a higher level of inflation. Moreover, it has been accepted that higher inflation levels and inflationary uncertainty are correlated. There are many of studies, with several methodologies that try to prove this hypothesis, especially for the United States. This paper uses a combination of ARIMA and GARCH methodologies in generating the usual conditional mean as well as the conditional variance of the inflationary process, which is a proxy for uncertainty. Once this variable is obtained, we verify that for Chile, higher levels of inflation have been historically accompanied by more inflationary uncertainty.

\*\*\*\*\*

Márquez, Gustavo  
Pagés-Serra, Carmen  
Office of the Chief Economist  
Inter-American Development Bank  
1300 New York Ave., NW  
Washington, D. C. 20577

#### Trade and Employment: Evidence from Latin America and the Caribbean

This paper examines the impact that the recent wave of trade liberalizations and economic reforms has had on employment. We use four alternative measures of openness and four measures of the real exchange rate to measure the impact of trade reforms on economy wide and manufacturing employment. Effects on labor demand are estimated on a panel data set

for 18 countries in Latin America and the Caribbean. Across a wide range of specifications, we find that trade reforms have had a negative, albeit small, effect on employment growth and that this effect has been reinforced by appreciation of the real exchange rate. We do not find that changes in domestic protection have had an effect on unemployment, suggesting that movements in and out of the labor force dominate over flows into unemployment in the adjustment of the labor market.

\*\*\*\*\*

Mateos, Calixto  
Banco de México  
5 de Mayo, No. 18, Piso 4D, Col. Centro  
México, D.F. México C.P. 06059  
Phone: (52-2) 761-8588  
E-mail: [cmateos@banxico.org.mx](mailto:cmateos@banxico.org.mx)

Gaytán, Alejandro  
Banco de México  
5 de Mayo, No. 18, Piso 4D, Col. Centro  
México, D.F. México C.P. 06059  
Phone: (52-2) 761-8588  
E-mail: [agaytan@banxico.org.mx](mailto:agaytan@banxico.org.mx)

#### Alternative Measures of Inflation

Growth in the consumer price index is the most widely used indicator to measure inflation. However, this indicator can reflect variations in relative prices or some other perturbations whose origin is unrelated to monetary policy. This document outlines and applies in the case of Mexico the methodologies used to calculate a series of measures. These measures have been developed to purge the consumer price index of temporal or relative price variations in a way such that the obtained index is a measure of inflation that captures only the sustained growth in the general price level. Each of these measures provides information about some aspect of the inflationary process. This is why it is important that the tracking of these measures be incorporated into the analysis of inflation in Mexico.

\*\*\*\*\*

McQuerry, Elizabeth

Federal Reserve Bank of Atlanta  
Research Department  
104 Marietta Street, N.W.  
Atlanta, GA 30303-2713  
Phone: (404) 614-7888  
Fax: (404) 521-8956  
elizabeth.mcquerry@atl.frb.org

Government Policy and the Banking Sector  
Rescue in Mexico: Economic and Political  
Considerations

This paper traces the evolution of bank rescue efforts in Mexico. As background to the bank sector crisis, important financial sector developments are reviewed. The paper focuses on the FOBAPROA (Bank Fund for the Protection of Savings) program as the most salient government-sponsored effort to address systemic risk in the banking sector. It also explores the program's operations and costs as well as the new politics of debt it has inspired in the country. The paper also provides a general overview of the impact of these developments on the banking sector. Finally, three possible scenarios for the legislative resolution of the FOBAPROA debate in Mexico are laid out with discussion of the broad political and economic implications entailed by each scenario.

\*\*\*\*\*

Medina G., Juan Pablo  
Economista  
Gerencia de Programación. Macroeconómica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone (56-2) 670-2386  
Fax: (56-2) 670-2231

Valdés P., Rodrigo  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2386  
Fax: (56-2) 670-2231

Liquidity and Investment Decisions in Chile:  
Evidence of Incorporated Firms

Using Chilean microeconomic data of stock market traded firms, this paper analyzes the importance of liquidity (cash flow) in firms' investment decisions. Contrary to what the classical theory predicts (that only projects' profitability matters for investment decisions) and in line with modern corporate finance theory (where internal and external funds have different costs), the results show that internal liquidity is an important determinant of investment. Because cash flows could capture access to profitable projects, the paper compares estimates for groups of firms that a-priori have different information asymmetry problems. The results are in line with the idea that liquidity matters for investment decisions.

\*\*\*\*\*

Méndez Quesada, Eduardo  
Economic Research Department  
Central Bank of Costa Rica  
Phone: (506) 243-3326  
Fax: (506) 243-3246 or 243-3441  
E-mail: mendezqe@bccr.fi.cr

Currency Boards: Characteristics, Operative  
Principles and Banking Policy Implications

This paper deals with the characteristics of currency boards and provides

the reader with an analysis of the advantages and disadvantages of this kind of convertibility regime. The paper discusses how currency boards work and the operative principles of their implementation. It also addresses the implications of policies usually coming from the central bank, especially for monetary and exchange-rate purposes. The Argentinean, Estonian and Hong Kong currency boards are presented as specific cases of currency board institutions.

\*\*\*\*\*

#### Effects of the Asian Crisis on the Costa Rican Economy

The Asian crisis, which began in the middle of 1997, had important worldwide effects. This paper analyzes the impact of this crisis on the Costa Rican economic activity, in general, but especially on the external sector outcomes and on the domestic financial market. The commercial and financial opening of the Costa Rican economy makes this small country highly vulnerable to external shocks.

This analysis concludes that a higher cost regarding external financial resources and a lower competitiveness are elements affecting the Costa Rican economic performance, at least, during 1998. Further world effects would depend on the duration of the Asian crisis and also on the magnitude of these effects not only on the main industrialized countries but also on the developing ones.

\*\*\*\*\*

#### Possibilities of Success of the Fiscal Adjustment Strategy of Costa Rica

The possibilities for success in Costa Rican fiscal adjustment are examined in light of the fiscal adjustment experiences of a broad assortment of countries in diverse economic circumstances and applying various combinations of policies. The international evidence suggests that: (1) A restrictive fiscal policy does not necessarily lead to a recession, if the adjustment creates expectations favorable enough to stimulate consumption and investment large enough to offset the Keynesian effects of a fiscal contraction (2)

policies based on spending restrictions (especially on transfer payments and salaries) are more successful than those based on tax increases (3) the state of the economy before the adjustment does not appear to affect the results (4) an adverse world economic situation impedes the success of the program

\*\*\*\*\*

Méndez Quesada, Eduardo  
Economic Research Department  
Central Bank of Costa Rica  
Phone: (506) 243-3326  
E-mail: mendezqe@bccr.fi.cr

Torres Gutierrez, Carlos  
Economic Research Department  
Central Bank of Costa Rica  
Phone.: (506) 243-3336  
E-mail: torresgc@bccr.fi.cr

Mayorga Vindas, Jose E.  
Informatic Department  
Central Bank of Costa Rica  
Phone: (506) 243-3064  
Fax: (506) 243-3246 or (506) 243-3441  
E-mail: mayorgavj@bccr.fi.cr

#### Effects of External Shocks on the Output and the Real Exchange Rate in Costa Rica

This paper focuses on the principal effects of the commercial and financial external shocks on the output and on the real exchange rate of Costa Rica. The commercial shocks are, on the one hand, approached through the USA's GDP as an indicator of foreign demand and through the terms of trade of Costa Rica as an indicator of international prices. The financial shocks are, on the other hand, approached through USA's interest rate. VAR analysis, applied to quarterly data of the period 1982-1995, gives an idea of the magnitude, direction, and duration of the said shocks.

Evidence suggests that a greater expansion of world economic activity tends to generate a permanent and wide positive effect on the output and a small transitory appreciation of the *colón*, which is the local currency (for five quarters after the event). An improvement of the terms of trade of Costa

Rica tends to raise the GDP, in a limited way and for a short time (two quarters). It also tends to provoke an appreciation of the domestic currency, which, in spite of its low magnitude, takes place for an important period (ten quarters). A raise of foreign interest rates has a negative effect on the output and surprisingly tends to appreciate the *colón* permanently and significantly.

\*\*\*\*\*

Mizala, Alejandra  
Romaguera, Pilar  
Centro de Economía Aplicada  
Departamento de Ingeniería Industrial  
Facultad de Ciencias Físicas y Matemáticas  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895  
E-mail: [cea@dii.uchile.cl](mailto:cea@dii.uchile.cl)

#### Educational Performance and School Choice: The Chilean Experience

Chile has introduced novel reforms in education: decentralization, subsidies for school choice as a stimulus for competition, standard evaluations such as SIMCE, special programs such as MECE, and aid programs focusing on the poorer schools such as P-900. The purpose of this work is to examine the Chilean experience while focusing on the reforms that create or emulate market mechanisms as a means of improving the quality of the educational process.

\*\*\*\*\*

Mizala, Alejandra  
Romaguera, Pilar  
Farren, Darío  
Centro de Economía Aplicada  
Departamento de Ingeniería Industrial  
Facultad de Ciencias Físicas y Matemáticas  
Universidad de Chile  
República 701  
Santiago, Chile  
Phone: (56-2) 678-4026  
Fax: (56-2) 689-7895  
E-mail: [cea@dii.uchile.cl](mailto:cea@dii.uchile.cl)

#### Technical Efficiency of Educational Establishments in Chile

The objective of this work is to evaluate the technical efficiency of the educational establishments in Chile, understanding the capacity of the establishments in generating the maximum product (educational success). Two alternative techniques of efficiency measurement are used: the estimation of a stochastic border of production and the data envelopment analysis (DEA), which permits identifying in a non-parametric form the border of efficient production of the establishments. Both techniques have advantages and limitations that are discussed in the paper. After analyzing 5000 educational establishments, both techniques reach the same conclusion. The results offer interesting findings for the design of educational policies in Chile.

\*\*\*\*\*

Molano, Walter  
BCP Securites  
289 Greenwich Ave.  
Greenwich, Connecticut 06830  
Phone: (203) 247-1944  
E-mail: [wmolano@msn.com](mailto:wmolano@msn.com)

#### Policy Challenges for Derivative Markets

The integration of global financial markets has led to a sharp expansion in international capital mobility. The increase in capital flows has contributed significantly to economic growth and improved the standards of living in emerging market economies. Financial competition and innovation have

also led to the development of new products, such as derivatives. However, the proliferation of derivative products and the deepening of capital flows have produced serious concerns about the stability of the global financial system. The rapid spread of the Asian crisis to Russia and Latin America in 1998 invoked fears of a global financial crisis. While derivative products were designed to help economic agents manage risk, they have largely been blamed for much of the market turmoil. This work examines the various types of derivatives as well as the various kinds of risks involved. It also addresses the methods to evaluate and monitor derivative risks.

\*\*\*\*\*

Nagarajan, Nigel  
European Commission  
Directorate General for Economic and  
Financial Affairs  
200, rue de la Loi  
1049 Brussels, Belgium

#### Mercosur and Trade Diversion: What Do the Import Figures Tell Us?

Has Mercosur's trade performance to date provided strong evidence that it has encouraged inefficient trade flows between its members? This paper evaluates the methodology suggested by Yeats (1997, 1998) to study trade flows within Mercosur. Yeats was motivated by the traditional concern of economists that regional trading arrangements can be welfare-reducing by fostering trade diversion (the replacement of efficiently produced goods from outside the arrangement by inefficiently produced goods from inside). His methodology was based on comparing shifts in intra-regional exports with a measure of relative efficiency in production. This paper argues that Yeats should have instead focused on imports. There has been a strong growth in intra-regional imports, but imports from third countries have also grown impressively. This reflects the increased multilateral openness of the Mercosur economies. If Yeats' methodology is adapted to examine trends in imports, the evidence for significant trade diversion is less clear-cut than he suggested. It is difficult to have a clear idea about whether

Mercosur producers are efficient suppliers of different goods. However, even for the cases where one may have some doubts, the growth in intra-Mercosur imports has been accompanied by growing trade with the rest of the world. In addition, the formation of Mercosur does not appear to have seriously compromised these countries' imports of high technology products from the industrialized countries.

\*\*\*\*\*

Oliva, Carlos  
Economist (RE3/OD5)  
Inter-American Development Bank  
Phone: (202) 623-2303  
E-mail: CARLOSO@IADB.ORG

Leon, Javier  
Economist (DPP/SPO),  
Inter-American Development Bank  
Phone: (202) 623-1769  
E-mail: JAVIERL@IADB.ORG

Iannariello-Monroy, Maria Pia  
Consultant  
Inter-American Development Bank  
Phone: (202) 623-1541  
E-mail: MARIAPIAM@IADB.ORG

#### Export Behavior in Colombia: 1962-1996

This document analyzes the structure of the export base in Colombia of the last thirty-five years. In particular, it identifies the characteristics, composition, and the determinants of its traditional and non-traditional exports; and it focuses on the issues of diversification, specialization, and stability of both exports and trading partners. A cointegration analysis based on the Johansen method of estimation complements the study and reveals the sensitivity of export generated income to exchange rate fluctuations. The finding demonstrates that total and traditional exports are very sensitive to variations in relative prices while non traditional exports show higher sensitivity to the real exchange rate and, as expected, to trade policies and world income.

\*\*\*\*\*

Penha Cysne, Rubens  
Professor  
Escola de Pós-Graduação em Economia da  
Fundação Getulio Vargas  
Praia de Botafogo 190, 11 Andar, Sala 1124  
Rio de Janeiro - RJ - 22253-900 Brazil  
Phone: (55-21) 552-5099  
Fax: (55-21) 536-9409  
Email: rubens@fgv.br

#### Macro and Microeconomic Aspects of Brazilian Reforms

This work describes the Brazilian economic reforms that occurred in the period, 1990-98. It analyses some aspects of their macro and microeconomic consistency.

\*\*\*\*\*

Portugal, Marcelo S.  
Madalozzo, Regina C.  
Curso de Pós-Graduação em Economia  
Universidade Federal do Rio Grande do Sul  
Av. João Pessoa, 52 sala 33 B  
90040-000 Porto Alegre RS Brazil  
Phone: (55-51) 316-3440 or 316-4050  
Fax: (55-51) 3163507

#### A Nairu Model for Brazil

This paper presents estimates for the non-accelerating inflation rate of unemployment (NAIRU) for the Brazilian economy. The estimates follow a modified version of two alternative models proposed by Nishizaki (1997) and Debelle and Laxton (1997). Our estimates are performed using quarterly unemployment data from both IBGE and DIEESE. The results show a linear Phillips Curve for Brazil. For the IBGE data, we estimate a time varying NAIRU; and for the DIEESE data, we obtain a fixed one. All results are in accordance with the acceleration of inflation in the eighties and the stabilization of the inflation rate in low levels after the Real Plan..

\*\*\*\*\*

Queisser, Monika  
OECD  
Development Centre Studies  
94, rue Chardon Lagache  
75016 Paris, France  
Phone: (33) 01.45.24.82.00

#### The Second-Generation Pension Reforms in Latin America

More than a decade after Chile moved from a public pay-as-you-go to a private funded pension system, seven more countries in Latin America (Peru, Colombia, Argentina, Uruguay, Mexico, Bolivia, and El Salvador) have reformed their pension systems. This study provides a detailed description of all second-generation pension reforms in Latin America to date, evaluates the first years of operations of the new systems, and outlines the problems and challenges which the systems are still facing. The basic common feature of the *second generation* pension reforms in Latin America is a greater role for funded, privately managed pensions. A move towards more funding is currently also discussed in many OECD countries as one possibility to confront the effects of aging populations on pay-as-you-go pension systems. In its final section, the study draws conclusions from the Latin American reform experience for the pension reform discussion in OECD countries and transition economies.

\*\*\*\*\*

Ramamurti, Ravi  
Visiting Professor of Management  
Massachusetts Institute of Technology  
Cambridge, MA 02115  
Professor of Business Administration  
Boston, MA 02115  
Phone: (617) 373-4760  
Fax: (617) 373-8628  
E-mail: [rramamurti@cba.neu.edu](mailto:rramamurti@cba.neu.edu)

#### Why Haven't Developing Countries Privatized Deeper and Faster?

Despite a decade of privatization in the developing world, the vast majority of SOE assets continue to be in government hands. *Bureaucrats in Business* correctly

identifies politics as one reason for the slow pace of privatization, but it underestimates the role of institutional and economic constraints. Success stories of privatization are rare in low-income countries, and the long-term promise of privatization in sectors posing regulatory complications remains to be established. Countries in crisis may reform SOEs quickly and deeply despite these uncertainties, but others may opt for gradual reform, which need not be altogether bad. If speedy privatization results in poorly conceived schemes, the cure can be worse than the illness. Finally, bureaucrats are likely to stay in business for years to come, and therefore, it is important to improve their effectiveness in the roles they are unlikely to shed in the future. A market-friendly approach to SOE reform need not be government-unfriendly.

\*\*\*\*\*

Reinhart, Carmen M.  
University of Maryland  
College Park, Maryland 20742  
Phone: (301) 405-7006  
Fax: (301) 403-8107  
E-mail: creinhart@puafmail.umd.edu

Smith, R. Todd  
International Monetary Fund  
Washington, D.C. 20431  
Phone: (202) 623-4696  
E-mail: tsmith@imf.org

Too Much of a Good Thing: The  
Macroeconomic Effects of Taxing Capital  
Inflows

During the 1990s a number of developing countries introduced measures designed to curb capital inflows. This paper presents a framework that facilitates the analysis of the macroeconomic effects of these capital controls. We review the stylized facts of several recent episodes in Asia, Eastern Europe, and Latin America. We conclude that in most of these instances, the measures were capable of altering the maturity profile of the flows but had little effect on consumption, the current account, or the real exchange rate.

\*\*\*\*\*

Rojas O., Alvaro  
Economista  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Decomposition of the Interest Rate  
Differential between Chile and Abroad: 1992-  
96

The purpose of this paper is to identify the different components of the interest rate differential between Chile and abroad. In order to do so, a methodology for decomposing this differential is applied under two possible interest-rate-parity conditions: covered interest parity for US\$/UF arbitrage operations and uncovered interest parity for US\$/Pesos arbitrage operations. From the decomposition of the interest differential, we are able to build up measures of country risk premium and exchange risk premium plus expected devaluation. Then we compare these measures with alternative measures of country risk and exchange risk plus expected devaluation. The comparison of the built and alternative series suggests that the country and exchange risk series under uncovered interest parity, rather than the series built under covered interest parity, show a behavior that is more coherent with that of the alternative measures used in this study.

\*\*\*\*\*

Rojas R., Patricio,  
Investigador  
Centro de Estudios Públicos

López, Eduardo  
Economista  
Gerencia de Programación Macroeconómica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

Jiménez, Susana  
Economista  
Gerencia de Programación Macroeconómica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

#### Source of Growth and Estimation of Potential Output in Chile: The Role of Trade

The purpose of this paper is to determine the sources of Chilean growth in the 1960-96 period. Particularly, we seek to quantify the contribution of increased trade on growth.. We also estimate potential output for the Chilean economy in the aforementioned period.

\*\*\*\*\*

Rozenwurcel, Guillermo  
CEDES-UBA-FADE (Fundacion Argentina para el Desarrollo con Equidad  
Cordoba 1776 piso 7  
Buenos Aires CF (1055) - Argentina  
Phone: (544-1) 816-6727  
E-mail: willyr@arnet.com.ar

Cruces, Guillermo  
Universidad Torcuato Di Tella - FADE  
Cordoba 1776 piso 7  
Buenos Aires CF (1055) – Argentina  
Phone: (54-1) 816-6727  
E-mail: gcruces@arnet.com.ar

#### Telecommunications Market in Argentina

This paper studies the evolution of the telecommunications industry in Argentina during the nineties. It emphasizes two aspects: regulation and the development of competition in this market. We analyze, in the first place, the economic and political constraints that surrounded the privatization process and the resulting market conditions. Secondly, we assess the regulatory framework, its weaknesses, and the lack of incentives for the development of an effective competition as well as the turbulent existence and functioning of the regulatory agency (CNT/CNC). We concentrate on the conflicts created by the dependence of the CNT/CNC from the Executive and the changes in tariff policy, focusing especially on the political problems that delayed the restructuring between urban and long-distance tariffs. Finally, we conclude with a detailed analysis of the Liberalization Plan formulated by the Secretary of Communications. This analysis casts serious doubts on the plan's ability to foster the development of an effective and sustainable competition in this market.

\*\*\*\*\*

Saiegh, Sebastián  
Centro de Estudios para el Desarrollo  
Institucional  
(Fundación Gobierno y Sociedad) &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina

Tommasi, Mariano  
Centro de Estudios para el Desarrollo  
Institucional  
(Fundación Gobierno y Sociedad) &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina  
E-mail: [tommasi@udesa.edu.ar](mailto:tommasi@udesa.edu.ar)

Argentina's Federal Fiscal Institutions:  
A Case Study in the Transaction-Cost Theory  
of Politics

Federal Tax-Sharing Agreements in Argentina constitute an intricate scheme (christened *fiscal labyrinth*), which does not correspond with any economic criteria and provides perverse incentives for the provincial leaders to over-exploit the common pool of national taxation. We argue that the successive laws and decrees that marked the evolution of Argentina's tax-sharing system were oftentimes not intended to be efficient; rather, they were created to serve the interests of those who possessed sufficient bargaining power to alter the existing rules of the game. The question is why did the political actors make a collection of choices that produced a system that, in the view of all experts, is clearly inefficient? Following an approach championed by North (1990) and Dixit (1996), we argue that such a path persisted because the transaction costs of Argentina's political market did not lead their political leaders to move toward more efficient outcomes. Although everybody would have preferred to share a bigger pie than a smaller pie, it turned out that a big (and guaranteed) piece of a small pie today was perceived by each actor to be better than a smaller (and uncertain) piece of a bigger pie tomorrow. Probably, some transactions among political actors could have generated benefits for all concerned. Yet, this was not possible in the face of uncertainty over the future status of today's bargains and

given the lack of institutions to enforce bargains among the jurisdictions.

This paper is the first step in a research agenda where we will attempt to identify the relevant political transaction costs that led to this inefficient social outcome. Our main task will be to *unbundle* the blanket category of *transaction costs* into empirically verifiable elements, and to walk through the history of the Argentine federal fiscal arrangements searching for evidence of those elements.

\*\*\*\*\*

Salama, Elias  
Universidad Nacional de La Plata  
Calle 6e/47 y 48  
La Plata (1900), Argentina  
E-mail: [salama@pinos.com](mailto:salama@pinos.com)

The Argentine Monetary Order in the First  
Decades of the 20th Century

From 1899 until the creation of the Central Bank in 1935, Argentina had a monetary order based on the English Bank Charter Act of 1844. Two institutions were created in 1890 and 1891: the Caja de Conversión, a currency board to issue bank notes against gold, and the Banco de la Nación Argentina, a commercial bank with a legal authorization for conducting rediscount operations with other commercial banks. The main purpose of this paper is to determine if the strict rules of the gold standard relative to the issue of bank notes were applied during this period and if some kind of monetary policy was implemented.

The balance sheets of the Caja de Conversión showed that until 1930 the Caja issued bank notes only against gold in strict accordance with the rules of the gold standard. However, this did not mean that there was not any monetary policy. The Banco de la Nación rediscounted operations with the commercial banks. Our econometric research supports the view stated by some authors that the Banco modified its bank reserves, measured as a proportion of its deposits, in order to partially sterilize the issue of bank notes done by the Caja de Conversión. In a limited way the Banco de la Nación acted like a central bank.

\*\*\*\*\*

Sanguinetti, Pablo  
Universidad Torcuato. Di Tella  
Miñones 2159/77  
1428 Buenos Aires, Argentina  
Phone: (54-1) 784-5872)

Tommasi, Mariano  
Centro de Estudios para el Desarrollo  
Institucional  
(Fundación Gobierno y Sociedad) &  
Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina  
E-mail: [tommasi@udesa.edu.ar](mailto:tommasi@udesa.edu.ar)

Intergovernmental Transfers and Fiscal  
Behavior: Insurance Versus Aggregate  
Discipline

We study and evaluate alternative ways of organizing intergovernmental fiscal arrangements. We construct a basic model to highlight a fiscal federalism equivalent to the well-known trade-off between rules and discretion. In an economy with many sub-national units subject to stochastic shocks, we evaluate three institutional setups : (i) first best (commitment and full information of the central government), (ii) commitment (with imperfect information about shocks to each region), and (iii) Nash (no commitment by the federal government). We evaluate the welfare properties of the commitment regime vis a vis the Nash regime. The first one has the advantage of moderating the tragedy of the fiscal commons, but it provides very limited insurance to regions suffering adverse shocks. The opposite is true of the Nash regime. We characterize the range of parameters (volatility of local shocks, risk aversion coefficient, size of the common-pool bias) for which each regime is preferable. We calibrate the model to the data of some federal countries in Latin America and find that commitment might be the second-best arrangement for those economies.

\*\*\*\*\*

Schmidt-Hebbel, Klaus  
Gerente de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone (56-2) 670-2386  
Fax: (56-2) 670-2231  
E-mail: [kschmidt@condor.bcentral.cl](mailto:kschmidt@condor.bcentral.cl)

Chile's Takeoff: Facts, Challenges,  
Lessons

A major change in policies, economic structure and performance has taken place in Chile during the last two decades. Chile joined the small number of takeoff countries that have been able to break away from stagnation. As a newcomer to the club and its only Latin American member to date, Chile's experience offers lessons in policy design and effectiveness that may be useful to other reforming countries. This paper provides empirical evidence on the crucial role played by macroeconomic stabilization and structural reform in the country's attainment of high rates of saving, investment, and growth and offers an assessment of future growth prospects. The paper identifies major risks and policy challenges that need to be addressed in order to assure sustained high growth. Final lessons are drawn from Chile's experience for other reforming countries.

\*\*\*\*\*

Does Pension Reform Really Spur  
Productivity, Saving, and Growth?

Substituting a fully funded system for a pay-as-you-go regime provides potential efficiency gains in factor markets, can contribute to higher saving, and hence could raise growth. But pension reformers face significant uncertainty about the size and timing of these benefits. This paper sheds light on this issue in two directions. First it reviews recent worldwide evidence from empirical and simulation studies concerning pension systems and their reforms. The paper addresses the possible benefits of the pension reforms on market factors and savings and their quantitative implications for growth. Secondly, new evidence is provided for Chile,

the country with the oldest and most radical pension reform to date. The results suggest that Chile's pension reform has improved labor-market performance and raised saving, investment, and factor productivity, contributing to a quarter of the country's growth increase.

\*\*\*\*\*

Schwartz Rosenthal, Moises J.  
Banco de México  
Director de Estudios Económicos  
Av. 5 de Mayo 9 18 - 4 piso  
Col. Centro - México, D. F. - México  
Phone: (52-5) 237 25 70  
Fax: (52-5) 237 25 71  
E-mail: schwartz@banxico.org.mx

#### Considerations about the Practical Implementation of Monetary Policy

In recent years the implementation of monetary policy by various central banks has evolved towards greater use of market mechanisms. The declining use in monetary policy of instruments such as reserve requirements has imposed new challenges to the monetary authorities. This document argues that a central bank's tools for influencing conditions in the money market – and for influencing the demand and supply schedules for the monetary base – are the principal elements for the implementation of monetary policy. The empirical evidence of various countries, including Mexico, indicates that the central bank's ability to guarantee liquidity to the banking system – permitting it to meet its payment commitments - turns out to be fundamental for adequate monetary management.

\*\*\*\*\*

Tommasi, Mariano  
Centro de Estudios para el Desarrollo Institucional  
(Fundación Gobierno y Sociedad) & Universidad de San Andrés  
Vito Dumas 284 (1644) Victoria  
Buenos Aires, Argentina  
E-mail: tommasi@udesa.edu.ar

#### On High Inflation and the Allocation of Resources

This paper formalizes some of the disruptive effects of inflation on the organization of markets. Rapid inflation induces buyers to speed up purchases, which thus inhibits the selection of more adequate trading partners through search. This blurs distinctions across firms of different productivities and leads to resource misallocations. As inflation causes efficient and inefficient firms to be less distinguishable, the incentives to engage in cost reduction are dampened and lower growth results. The model could provide a rationale for the large number of bankruptcies and large turnover rates following successful inflation stabilization programs, like those of Israel, Bolivia, and Argentina.

\*\*\*\*\*

Valdés P., Rodrigo  
Economista Senior  
Gerencia de Investigación Económica  
Banco Central de Chile  
Huérfanos 1175  
Santiago, Chile  
Phone: (56-2) 670-2000  
Fax: (56-2) 670-2231

#### Income and Population Growth: A Simultaneous Equations Model

This paper estimates a simultaneous equation model of income and population growth. The framework is based on the neoclassical growth model augmented with a population growth equation. Both limited and full information non-linear estimation methods are used, as well as different specification tests that check the consistency of the model. The results show that the proposed simultaneity

produces an important bias in the typical OLS income equation used in the empirical growth literature. The population growth parameter increases by almost 50% (in absolute value) in the standard income equation. Finally, the paper shows that a cultural aspect like religion matters in the population growth equation but not in the income equation.

\*\*\*\*\*

#### Monetary Policy Operations in Chile

Using semi-structural VARs, this paper presents empirical evidence on the Chilean monetary policy operation. The singularity of this policy is that it works through targeting indexed interest rates, which are approximately equal to ex-post real rates. I identify changes in monetary policy as innovations in the central bank target rate. The evidence shows that monetary policy is effective in controlling output, but only partially effective in controlling inflation. In particular, the policy of indexed rates is able to affect the gap between current and target inflation, but not inflation per-se. This gives indirect evidence regarding the importance of the target inflation as the nominal anchor of the Chilean economy.

\*\*\*\*\*

Végh , Carlos  
Department of Economics  
University of California, Los Angeles  
405 Hilgard Avenue  
Los Angeles, CA 90024  
Phone: (310) 825-7371  
Fax: (310) 825-9528  
E-mail: cvegh@ucla.edu

#### Monetary Policy, Interest Rate Rules, And Inflation Targeting: Some Interesting Equivalences

Policymakers increasingly view short-term nominal interest rates as the main instrument of monetary policy, often in conjunction with some inflation target. Interest rates on short-term indexed government debt (i.e., a real interest rate) have also been used as policy instruments. To understand the pros and

cons of different policy rules and instruments, this paper derives some basic equivalencies among different policy rules. It is shown that, under certain conditions, the following three rules are exactly equivalent: (i) a k-percent money growth rule; (ii) a nominal interest rate rule combined with an inflation target, and (iii) a real interest rate rule combined with an inflation target. These policy rules, however, become increasingly complex: the first rule requires no feedback mechanism; the second rule requires responding to the inflation gap; the third rule involves responding to both the inflation gap and the output gap. It is also shown that money growth rules and nominal interest rate rules, which respond to the output gap, may deliver better outcomes.

\*\*\*\*\*

Vinda Sanchez, Katia  
Economic Research Department  
Central Bank of Costa Rica  
Phone: (506) 243-3342  
Fax: (506) 243-3246 or 243-3441  
E-mail: vindassk@bccr.fi.cr

#### Analysis on the Dynamic Relationship between the Main Monetary Aggregates, M1, Monetary Base, Emission, the Internal Prices and the Economic Activity: The Costa Rican Case

This paper describes a VAR analysis, using the main definitions of money, M1, Monetary Base and Emission, and establishes a non-significant effect upon the level of economic activity and prices, as a consequence of changes in the monetary supply. It is also possible to establish a high level of stability and of exogeneity among the main monetary aggregates.

It was once proven that inertial effects are important to fully explain the evolution of prices, as well as why the economic activity has higher prediction power over the prices than over the monetary aggregates. Therefore, it was possible to establish that monetary shocks, on the one hand, produce transitory effects on: a) prices, whose effects tend to disappear after a 36-month period, and b) the economic activity, usually disappearing

between the 20th and 23rd months after the shock.

On the other hand, from inflationary shocks, it follows that: a) in the short term (2nd. and 3rd. months), there is a slight increase in the main definitions of monetary aggregates, whose effects tend to disappear, and b) there is a slight increase in the economic activity, which soon after begins to vanish. Then, some swaying movements emerge until the effect ceases to exist.

Finally, from real shocks it follows that, in the short term: a) M1 and the monetary base values soar, whereas emission decreases (some ups and downs emerge until the effect disappears), and b) prices increase. The effect, nevertheless, tends to disappear after that.

It is important to carry over other analyses, using different variables, in order to continue exploring transmission mechanisms on economic policies regarding the Costa Rican economy.

\*\*\*\*\*

Walker, Eduardo  
Pontificia Universidad Católica de Chile  
Casilla 76, Correo 17  
Santiago, Chile

The Chilean Experience Regarding  
Completing Markets with Financial Indexation

The general hypothesis that financial indexation to the CPI has been important for the development of the Chilean capital markets is analyzed from several perspectives. The effective maturity shortening of nominal bonds, the likely dollarization of longer term debt, and the reduction of average maturities imply smaller markets or higher expected bankruptcy costs as a direct consequence of not having indexation in countries with moderately high and variable inflation rates. The Chilean market appears as a successful example of financial indexation, with a very large percentage of indexed assets held by investors (between 63% and 99% -excluding banks and equity investment in the latter measure). The development of an indexed fixed-income market has indirectly impacted the development of others, including the equity market. The distortion in relative

returns to debt and equity has also contributed to the development of these markets. Short- and long-term indexed bonds provide distinct, unique, and relevant patterns of returns that cannot be replicated in the international markets. This uniqueness is relevant since unexpected indexed bond returns represent changes in state variables that significantly impact asset prices and also since diverse economic sectors would find different optimal debt structures (or hedge portfolios) in terms of their relative currency denomination (UF-USD) and maturity. We also find evidence that: i) the Central Bank of Chile's asset composition should include a small proportion of long-term US government debt and also emerging market equity and that ii) it makes little sense for local investors to invest in foreign fixed income as a long-term strategy.

\*\*\*\*\*

Zarazaga, Carlos E. J. M.  
Executive Director  
Center for Latin American Economics  
Federal Reserve Bank of Dallas  
2200 North Pearl  
Dallas, Texas 75201  
Phone: (214) 922-5165  
Fax: (214) 922-5194  
E-mail: carlos.zarazaga@dal.frb.org

Building a Case for Currency Boards

Two common objections to currency boards are that they are dominated by more flexible policies and that they are unsustainable. The paper confronts these objections with the insights from a model economy in which several constituencies who compete for subsidies do not have the ability to monitor the allocation of government spending. Such assumptions are meant to capture important features of the reality of many countries for which currency boards have been proposed. The model suggests that in such environments, flexible policies in a certain class have an inflationary bias that a sustainable currency board can--but not necessarily--eliminate.

\*\*\*\*\*