2004 Annual Report

Center for Latin American Economics

Federal Reserve Bank of Dallas
Research Department

About the Center for Latin American Economics

The Federal Reserve Bank of Dallas established the Center for Latin American Economics (CLAE) in 1992 to promote public understanding of economic policy issues pertinent to Latin America. The center serves as a clearinghouse for information about the region and pursues the exchange of ideas internationally. The CLAE hosts scholars and central bankers from Latin America, organizes conferences, and sends staff economists to present papers at academic and technical conferences. The staff writes and publishes work in a wide variety of outlets, including refereed journals, books and publications of the Federal Reserve Bank of Dallas.

Center Staff

Director General
William C. Gruben
Ph.D., Economics, University of Texas at Austin

Executive Director
Carlos E. J. M. Zarazaga
Ph.D., Economics, University of Minnesota

Senior Economist
Pia M. Orrenius
Ph.D., Economics, University of California at Los Angeles

Senior Economist
Erwan Quintin
Ph.D., Economics, University of Minnesota

Research Assistant
Genevieve Solomon
B.A., Economics, University of Texas at Austin

Visiting Scholars
Pedro Amaral, Southern Methodist University
Finn Kydland, University of California at Santa Barbara

Executive Staff Assistant
Ana Prats

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Problems with Domestic Market Orientation in Latin America

In last year's Center for Latin American Economics Annual Report, Executive Director Carlos Zarazaga addressed Latin America's wave of dissatisfaction over market reforms that had failed to deliver the promised growth. Several Latin American countries have elected officials who say they are committed to undoing the "Washington Consensus" reforms that were intended to make economic institutions more efficient. Even where politicians have been less polemical, the rise of political parties and candidates suspicious of markets has been common.

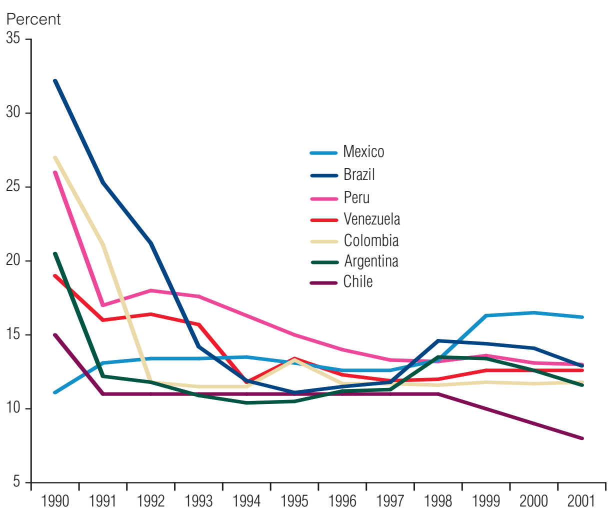
Some of the reasons for dissatisfaction are easy to identify. They involve slower than expected economic expansion and widening gaps between the haves and have-nots. In both cases, a relevant question is whether the so-called liberal reforms are the problem or if the problem rests in the insufficiency of the reform itself.

The discipline of economics has not fully come to grips with either the economic or political dynamics that have triggered moves away from market-based policies across Latin America. Some current presidents whose elections signified moves away from a market orientation still follow fiscal and monetary policies reminiscent of their more market-oriented predecessors. Others, of whom Venezuelan President Hugo Chavez is the most vocal, have either officially pronounced market-oriented policies strongly objectionable or adopted policies consistent with such objections.

Much has been made of Latin America's many trade openings. Mexico's entry into NAFTA and its free trade agreements with other countries in the region are important cases in point. So are the openings through the Central American Free Trade Agreement and various efforts in South America, particularly those of Chile. Chart 1 shows the average tariff reduction in the seven most populous Latin American countries—Brazil, Mexico, Colombia, Argentina, Peru, Venezuela and Chile. Some of the trade openings have clearly been large.

The region's domestic market orientation has also received attention. During the 1990s, Peru privatized a significant portion of government assets (13 percent of GDP). So did Brazil (11 percent), Argentina (8 percent), Mexico (6 percent) and others in Latin America. The liberalization of financial markets and the privatization of banks also distinguished the period. Governments rationalized their monetary and fiscal policies, lowering inflation rates dramatically and moving closer to balanced budgets. With some exceptions, this continued into the new millennium.

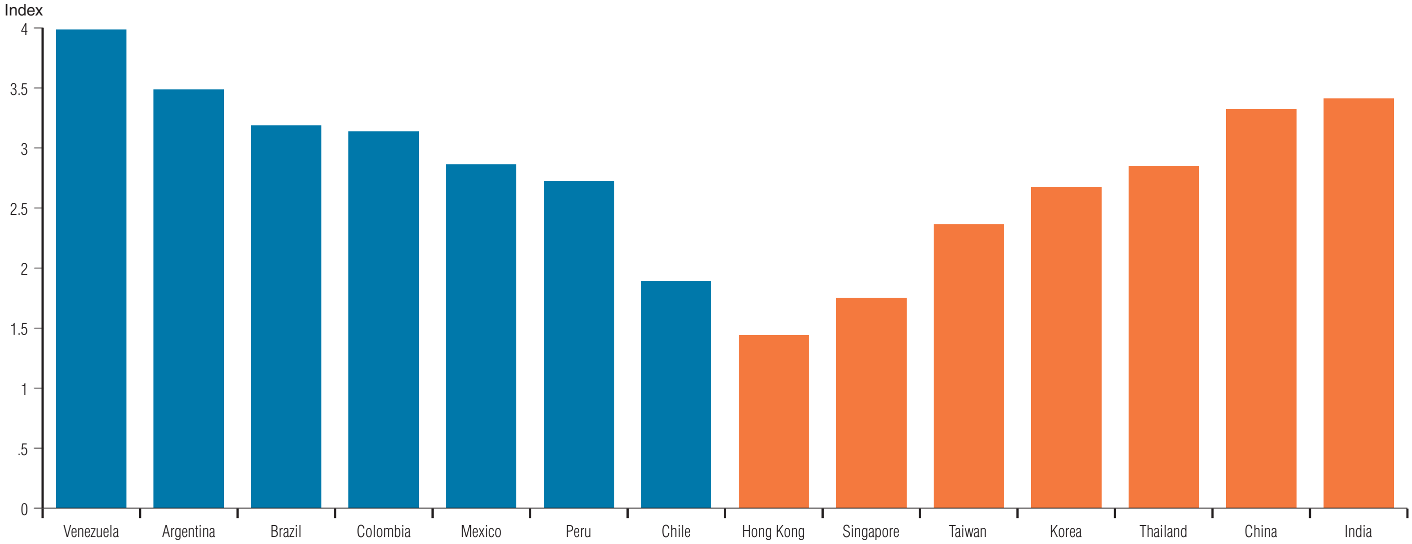
Chart 1
Average Tariff Rates Fall



SOURCE: World Bank.

Nevertheless, many areas of Latin American domestic policy have received little attention and less reform. Chart 2 uses components of the Heritage Foundation's Index of Economic Freedom to characterize domestic market openness in the seven most populous Latin American countries and in seven Asian countries—China, Hong Kong, Korea, Singapore, Taiwan, Thailand and India. The overall index has 10 components, of which trade and capital market openness are obviously international. The eight remaining components can be considered measures of domestic market orientation: fiscal burden, government intervention, monetary policy, banking, wage and price flexibility, property rights, regulation and informal market dominance. The lower the values of these indicators, the

Chart 2
Asia's Domestic Market Orientation Outstrips Latin America's



NOTE: A high value indicates low domestic market orientation; a low value indicates high domestic market orientation.

SOURCES: Heritage Foundation; Federal Reserve Bank of Dallas calculations.

greater the domestic market orientation a country enjoys.

Among the Latin American countries, Chile has the lowest (best) score (1.8875). Most of the fast-growing Asian countries on Chart 2 have lower (more market-oriented) scores than most of the Latin American countries. In fact, four of the seven Asian countries have lower (better) scores than even the second-best Latin American country, Peru.

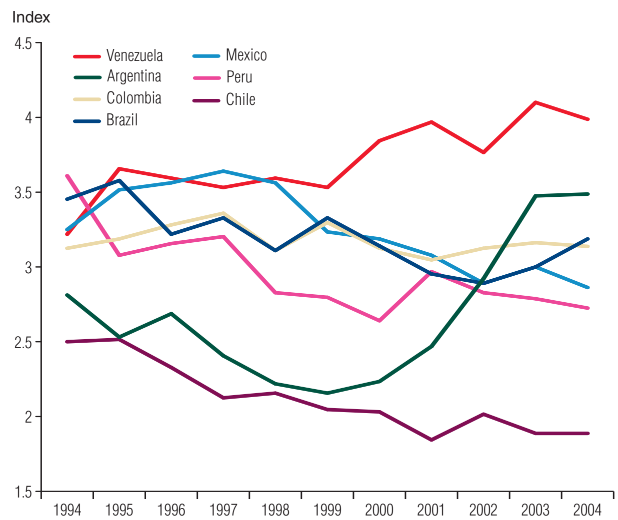
More striking is how little, in terms of economic rationalization and liberalization, these domestic market-orientation indicators have changed since the mid-1990s. Chart 3 characterizes these changes over the period 1994–2004 for the seven Latin American countries. Index values range from a low of 1.8874 (Chile, 2004) to a high of 4.1 (Venezuela, 2003). Even so, despite some increased market orientation, movements in the indexes show country-by-country liberalizations (declines) of more than 0.5 point only in the cases of Chile and Peru. Not even Mexico makes the cut.

These openings, or the lack of them, are important not only in a domestic context but also in an international environment. For example, Tornell, Westermann and Martinez (2004) suggest that bottlenecks in the nontradables sectors impede Mexican expansion in tradable goods production. Their focus is credit shortages for nontradable firms, but it is hard not to suspect that impediments to domestic market flexibility in general may exact their own taxes on growth as well. (Other examples of market inflexibility are discussed below.)

Nevertheless, in last year's essay, Zarazaga notes that "empirically speaking, much remains to be discovered about which liberalizations are crucial." A comparison of Chart 2 with Chart 4 provides ample evidence of this.

Using the data in Chart 2, it is possible to create an index of overall averages of domestic market orientation for the

Chart 3
Most Latin American Countries Haven't Improved Domestic Market Prices

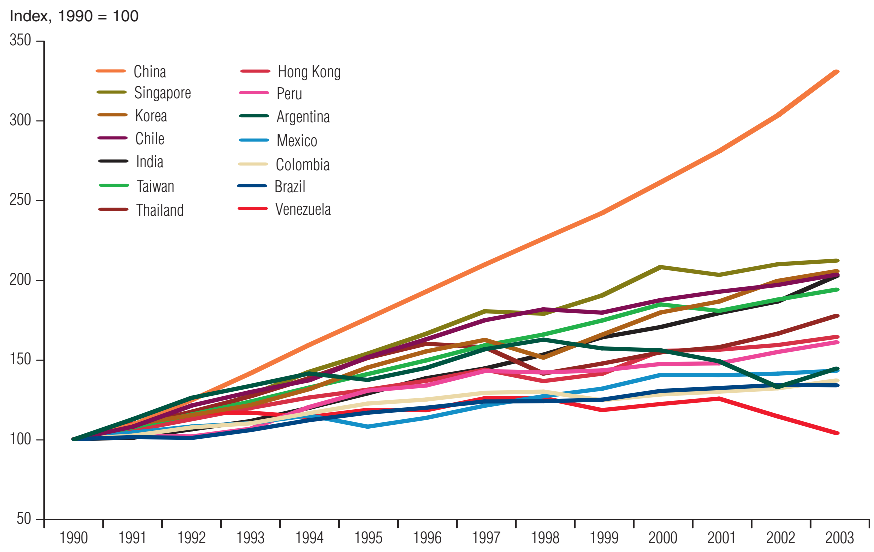


NOTE: A high value indicates low domestic market orientation; a low value indicates high domestic market orientation.

SOURCES: Heritage Foundation; Federal Reserve Bank of Dallas calculations.

Chart 4

Latin American Economic Growth Slower Than Asia's



SOURCE: World Bank.

Asian and Latin American countries. Asia's average is 2.44; Latin America's is 3.04.

The comparison between these last statistics and GDP growth is striking. Chart 4 depicts real GDP growth since 1990 for the 14 countries. The order of growth rates from highest to lowest is China, Singapore, Korea, Chile, India, Taiwan, Thailand, Hong Kong, Peru, Argentina, Mexico, Colombia, Brazil and Venezuela. So of the eight fastest-growing countries, seven are Asian and one (Chile) is Latin American. In contrast, the six slowest growing countries are Peru, Argentina, Mexico, Colombia, Brazil and Venezuela—100 percent Latin American.

But while there is obviously a general relation between domestic market orientation and growth, with the less market-oriented Latin American economies growing more slowly than more market-oriented Asian economies, the devil is in the details. A glance at Chart 2 shows that China and India are substantially less domestically market-oriented than Chile. Nevertheless, China grew much faster than Chile, and Chile and India finish the growth period in Chart 4 in a dead heat. Since Chile has markedly greater domestic market orientation than either China or India, factors other than the Heritage Foundation indicators must be of crucial importance for growth. It may be that low, dollar-denominated labor costs in China and India overshadow domestic market-oriented factors. Even so, the exact combination of reasons China and India grow faster than any of the seven Latin American countries but Chile remains unknown.

Despite these complicating details, Latin American policymakers' reluctance to pursue further market-oriented policies at the domestic level is striking. Perhaps partly as a result of this reluctance, the Latin American countries' average rate of real GDP growth over 1990–2003 is 47 percent, compared with 113 percent (unweighted) for the Asian countries.

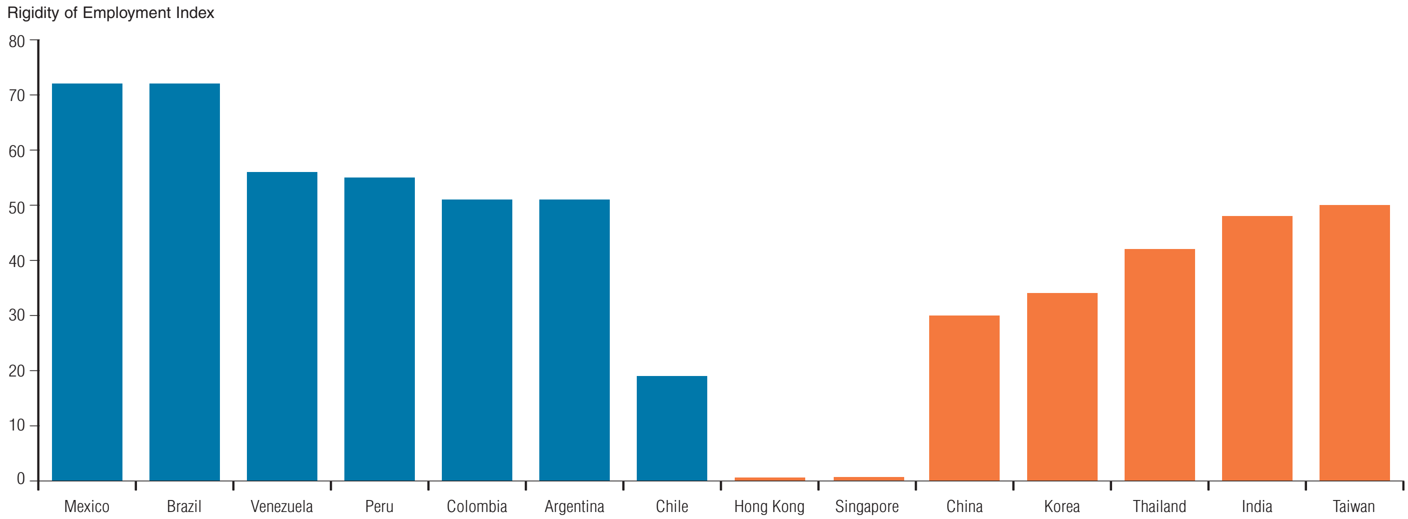
The Heritage Foundation indexes are not the only ones in which Latin American performance is substantially worse than Asia's. For example, while job-protection laws remain controversial, research suggests that the high level of such protection in Latin America continues to reduce employment and promote income inequality (Heckman and Pagés 2000, Heckman and Pagés 2003, and Montenegro and Pagés 2003). The adverse impact of such regulations falls most heavily on workers who are young, female and/or unskilled.

Chart 5 presents the Rigidity of Employment Index developed by the World Bank's International Finance Corp. (IFC). The higher the score, the more government interference in employment markets. The chart compares scores for the seven Latin American and seven Asian countries. The three countries with the most rigid employment markets are all Latin American—Venezuela, Brazil and Mexico. The three least rigid labor markets are Hong Kong, Singapore and Chile. On a scale where higher values mean more inflexibility, the average for the Latin American countries is 54, versus 29 for the Asian nations.

To offer a broader perspective, the IFC provides five measures of labor market flexibility and compares them by developing-country geographic area: East Asia and Pacific, Europe and Central Asia, Latin America, Middle East and North Africa, South Asia, and sub-Saharan Africa.[1] In three measures, only sub-Saharan Africa shows more government inter-

Chart 5

Employment Regulations Far More Rigid in Latin America Than Asia



NOTES: The Rigidity of Employment Index is a composite measure that accounts for the presence or absence of the following: (1) contracts can only be temporary; (2) contracts have a maximum duration; (3) ratio of mandated minimum wage to average value-added of working population; (4) restrictions on night or weekend work; (5) workweek is five and a half days or more; (6) whether the workday can extend to 12 hours or more (including overtime); (7) 21 or fewer paid vacation days annually; (8) redundancy is grounds for dismissal; (9) employer must notify a labor union or labor ministry for group dismissals; (10) employers require labor union or labor ministry approval to dismiss a redundant employee; (11) law mandates training or reemployment prior to dismissal; (12) priority rules apply for dismissals; (13) priority rules determine reemployment. High index values indicate high employment rigidity; low values indicate low employment rigidity.

SOURCE: World Bank, International Finance Corp., Doing Business Database.

ference than Latin America.

Similarly, of the IFC's four measures of how difficult governments make starting a business, two of Latin America's measures are the worst of any of the areas (including sub-Saharan Africa). In one other of the four measures, Latin America is exceeded in difficulty only by sub-Saharan Africa.

Latin America's reluctance to shed policies that make starting a business or adjusting a firm's workforce difficult not only impedes efficiency—and the growth that attends it—but creates opportunities for the growth of monopolies and oligopolies. More difficulty entering an industry, for example, confers special favors and protections upon the happy few who can pull it off. Moreover, a substantial literature offers evidence that the presence of monopolies, collusive aggregations of businesses and other market-impeding phenomena retards technological progress. Such obstructions, by definition, prevent the advancement of total factor productivity in a world where small differences in such productivity can result in very large differences in per capita income.

Making Latin American policymakers' reluctance to follow more market-oriented domestic policies astonishing is the example of Chile, the region's clearest exception to such reluctance and easily its fastest-growing economy. Chile is the only Latin American country whose growth compares with the Asian tigers'. We do not always fully understand every detail that leads to long-run growth. Chile, however, offers evidence to suggest that the market-reluctant policymakers elsewhere in the region are sacrificing growth in the interest of politics.

William C. Gruben
Director General
Center for Latin American Economics

Notes

[1] The data series also includes Organization for Economic Cooperation and Development high-income countries, but I have left them out of this comparison

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Research and Shorter Analysis

CLAE staff, visiting scholars and their coauthors pursued research on topics related to economic crises, macroeconomic policy failures and business cycles, finance and monetary policy, and immigration and labor economics. This research included CLAE and Research Department working papers and articles in the Dallas Fed's *Economic and Financial Policy Review* and *Southwest Economy*, as well as papers presented at academic conferences or submitted to academic journals.

Crises

CLAE researchers continue to focus their attention on the causes and effects of economic crises because Latin America has had so many of them. In "The Real Impact of Financial Crises," Elias Brandt, Scott Dressler and Erwan Quintin note that output drops that follow financial crises are of interest not only because of their magnitude but also because they often far exceed concurrent drops in standard measures of physical capital and labor.

They point out that applying a standard neoclassical model to this question shows that total factor productivity has to fall by nearly 10 percent to account for the collapse in Mexican real GDP in 1995. This falloff is twice as large as any other movement in Mexican factor productivity in the past 20 years.

Based on their benchmarking results, the authors conjecture that much of financial crises' impact occurs because firms leave productivity resources idle until conditions improve. They calculate that capital utilization could account for as much as half the drop in standard measures of total factor productivity. The authors then examine the possible causes for such deep declines in capital utilization during crises, noting that while the causes of the triggering financial crises have been well examined, the effects have not.

Brandt, Dressler and Quintin conclude that despite their brevity, crises create ideal conditions for large swings in capital utilization. For about one to two years, real interest rates are well above trend, while total factor productivity falls well below it. This provides strong incentives for leaving plants and machines temporarily idle and economizing on such variable expenditures as wear and tear. In sum, capital utilization matters much more during financial crises than at other times because crises create ideal conditions for large swings in utilization rates.

In "The 'Curse' of Venezuela," William C. Gruben and Sarah Darley address the crises and strife that have attended the government of controversial Venezuelan President Hugo Chavez. They maintain that the country's difficulties lie in what economics and political science refer to as the "resource curse" (for Venezuela, read "oil") and that Chavez's government is a symptom as much as a cause of Venezuela's problems.

According to the resource curse literature, abundant natural resources can create short-run booms but impose economic and political distortions that retard long-run growth. As a result, resource-based economies grow more slowly than others. When a resource boom triggers inrushes of financial capital, prices of nontradable products, ranging from office buildings to haircuts, go up and stay up. When prices of these products skyrocket, some businesses that use them cannot compete. Agriculture wilts as an exporter; export-based manufacturing never blooms. Educational levels are negatively tied to resources' share of wealth, so resource dependence quashes education-intensive manufacturing.

Political scientists argue that the effects of growing oil wealth in Venezuela led government officials to believe the workings of the market were incompatible with their goals. The political system came to reward those who could "milk the cow," rather than those in more productive activities.

Gruben and Darley point out that not only has Venezuelan economic growth lagged that of less resource-endowed Latin American countries but that during 1980–2002, real income per capita dropped 25 percent. For 40 years, Venezuela's political parties had a formal accord to share power and economic largesse. As the country's economy worsened and chances for political accommodation eroded with falling income, this arrangement collapsed. The election of Chavez—who was not a member of the old power-sharing groups—was a result of this breakdown. Regardless of how one interprets Chavez's policies, his political rise was a symptom of these historical difficulties—not an independent phenomenon.

Macroeconomic Policy Failures and Business Cycles

While CLAE research has long reflected the Dallas Fed's broad concern with macroeconomic issues, two of the center's particular, related concerns are fiscal mismanagement and other macroeconomic policy failures and the transmission of business cycles.

"Argentina's Capital Gap Puzzle" is a research paper on the first of these two topics by Finn Kydland, a Dallas Fed visiting scholar and winner of the 2004 Nobel Memorial Prize in Economics, and CLAE Executive Director Carlos Zarazaga. In the paper, they test to explain why Argentina's GDP per working-age adult in 2003 was about the same as 20 years earlier and about 15 percent below trend. Applying the neoclassical growth model to Argentina, they find that the nation's capital stock per working-age adult would have been about 25 percent higher than in 1980 if total factor productivity had kept growing over the intervening period at the 1 percent average annual rate of 1951–79. Instead, capital stock per working-age adult in 2003 was 20 percent lower, 45 percent below its trend value.

The benchmarks Kydland and Zarazaga use present a puzzle. The neoclassical growth model they apply accounts for the dynamics of Argentina's capital stock during recessions but not during growth. Overall, the model accounts for about half the nation's capital gap. The gap is the difference (here, 45 percent) between where capital per worker would be in its previous trend rate of growth (here, 1951–79) and where it is in fact.

A detailed examination of this general puzzle highlights a narrower one. Even during 1990–98, when total factor productivity grew at an average annual rate of 4 percent, the capital stock per working-age adult barely grew at the 1 percent historical average, well below what a neoclassical model predicts. What difference between Argentina's periods of growth and decline keeps the neoclassical model from explaining total factor productivity changes during upturns?

While the model does not identify the causes of slow investment growth during the boom, a growing literature suggests that small open economies face borrowing constraints that are more binding during growth periods than in downturns. It should surprise no one that productivity declines during recessions discourage investment. But what about during expansions, when productivity increases? Why doesn't investment grow? The answer is politics.

In countries like Argentina, when the capital stock becomes larger, so do policymakers' incentives to increase taxes on capital. Investors have fresh memories of Argentina's sovereign debt default of the mid-1980s and the bank deposit confiscations of the 1990s. Anybody who had grim expectations of a repeat performance saw them realized in 2001, when Argentina declared a massive default on its sovereign debt and effected the largest confiscation of deposits in its history. According to Kydland and Zarazaga, analytical departures from the default-free world of their neoclassical growth model would be required to address the unexplained portion of Argentina's capital gap.

In another article dealing with fiscal mismanagement, "Is Tighter Fiscal Policy Expansionary Under Fiscal Dominance? Hypercrowding Out in Latin America," Gruben and John Welch examine market responses to fiscally dominated governments. Such governments can fully meet future obligations only through heavy dependence on the inflation tax. Without inflation, these governments are or are perceived as insolvent. Responses of a nation's growth and interest rates to fiscal balance changes can be 180 degrees from those of monetarily dominated countries, in which governments adjust primary fiscal balances to limit debt.

Gruben and Welch use the term *hypercrowding out* to describe what occurs when fiscally dominated governments' fiscal demands are so intrusive to a nation's financial system that the slightest sign of more responsible behavior lowers interest rates. When hypercrowding out occurs, fiscal tightening becomes expansionary. In countries with more normal fiscal behavior, this relation does not hold.

The authors contrast the fiscal dominance phenomenon with what occurs in monetarily dominant regimes. In the latter, where large real liabilities motivate government moves toward fiscal balance, the more conventional type of crowding out can still occur. Here, increasing government spending soaks up credit that would otherwise go to a nation's private sector, but the growth effects of fiscal expansionism offset (or more) the contractionary impulses coming from a credit-starved private sector.

Gruben and Welch discuss why and how the debt-based literature on fiscal dominance models shows theoretical inconsistencies and why certain types of fiscal-surplus-based models do not. Using fiscal-surplus-based models, the authors identify signals of fiscal dominance in a sample of Latin American countries with a broad range of policy histories—Brazil, Chile, Colombia, Mexico and Peru. The test results suggest a marked overhang of market concerns about fiscal dominance, particularly for Brazil but also for Mexico and Peru. One puzzle is that all three have recently hewed to what may be seen as monetary dominance. However, these countries have also had relatively recent financial crises, and the literature maintains that markets have long memories.

In "Empirically Testing Maquiladora Conventional Wisdoms," Gruben econometrically examines three conventional wisdoms about Mexico's in-bond plant industries and focuses on concerns that the Chinese economy is overwhelming Mexico's. He performs tests related to the effect of U.S. business cycles on maquiladoras. The three conventional wisdoms are: (1) maquiladoras are intermediate processing industries, sending products on for final processing; (2) NAFTA explains the post-NAFTA acceleration of maquiladora employment; and (3) China largely explains the decline in maquiladora employment in 2001–02.

Gruben finds general confirmation for the first conventional wisdom, but notes that not every industry's behavior is consistent with this idea. Testing the second wisdom, he finds that NAFTA does not explain the post-NAFTA acceleration of maquiladora employment overall. However, he does find strong evidence of NAFTA's positive influence on textiles and apparel employment. This is consistent with literature that argues this was Mexico's only sector to benefit from trade diverted from non-NAFTA countries.

For the third conventional wisdom, Gruben tests for factors linked to the 2001–02 decline in maquiladora employment following an October 2000 peak. He finds that indicators of U.S. business cycle fluctuations—together with relative international labor cost factors unassociated with China—explain 82 percent of the plunge in maquiladora employment before subsequent pickups occur. Business cycle fluctuations dominate in explanatory power. While maquiladora employment had not reachieved its October 2000 peak, by the end of 2004 it had already recovered to its May 1999 level.

Some of these same general themes are examined from a rather different perspective in Quintin's "Mexico's Export Woes Not All China-Induced." The author points out that China has steadily gained market share, while Mexico is losing ground in U.S. markets. He notes, however, that China does not seem to be benefiting at Mexico's expense.

Most industries in which China has gained market share in U.S. exports, Quintin maintains, are not industries in which Mexico has lost corresponding market share. Indeed, countries that have lost market share to China were chiefly Asian. There is little correlation between China's gains and Mexico's losses, with a few exceptions, such as televisions and textiles and apparel. Also, a significant portion of the downturn was a response to the U.S. recession—a business cycle phenomenon—at the beginning of this decade.

In "Have Mexico's Maquiladoras Bottomed Out?" Gruben argues that the U.S. manufacturing sector's upturn means the end of Mexico's recent maquiladora decline. In response to articles emphasizing the depth of maquiladoras' decline, he notes the special and little understood role they play in relation to U.S. manufacturing. He points out that firms in high-income countries use foreign-operated export-processing-zone plants such as maquiladoras to absorb the brunt of shocks to home demand. An increase or decline in U.S. industrial production triggers much larger increases or declines in maquiladora employment in the corresponding industries in Mexico.

Gruben also explains that the maquiladoras' role as buffers means that they not only decline faster than their U.S. counterparts but that they can also grow very rapidly. As an example, during the 26-month period September 1998 through October 2000, maquiladora employment grew more rapidly than it fell from October 2000 to its trough 33 months later in July 2003. Observers who found the decline drastic would have thought the preceding boom even more so.

Finance and Monetary Policy

CLAE researchers maintained their ongoing focus on the role of financial systems and financial intermediation in developing countries. They also continued to investigate international influences on domestic monetary policy.

How finance affects economic development remains a topic of interest for the CLAE. In "Making Finance Matter," Pedro Amaral and Quintin present a model to measure the importance of financial intermediation for development. They identify circumstances under which finance matters a great deal and those under which it matters little.

Amaral and Quintin note that under standard neoclassical assumptions, observed differences in human and physical capital cannot explain differences in output per worker across nations. They emphasize that total factor productivity varies greatly across countries. At the same time, financial and economic development are highly correlated, supporting the idea that financial development causes economic development by promoting investment and more efficient resource allocation.

In the Amaral and Quintin model, better financial markets raise output by increasing the capital used in production. To measure the contribution financial intermediation makes, they generate differences in the quantity of financial intermediation by varying the degree to which loan contracts can be enforced. Economies in which contracts are poorly enforced emphasize self-financing, employ less capital and rely on less efficient technologies. In quantitative terms, finance matters for development and total factor productivity if the capital share is higher than usually assumed or the elasticity of substitution between capital and labor is low. Under standard technological assumptions, however, finance matters little.

In "Why Do Financial Systems Differ? History Matters," Cyril Monnet and Quintin present a dynamic general equilibrium model of financial intermediation in which fundamental characteristics of the economy imply a unique equilibrium path of bank and financial market lending. However, their results also demonstrate that economies whose fundamental characteristics converge may nevertheless continue to operate very different financial structures. This persistence occurs because channeling funds through a financial market is cheaper in economies that have borne the cost of building large financial markets. The model more generally suggests that basic industrial organization principles aid in understanding why financial structures vary so markedly across nations.

In "Currency Competition and Inflation Convergence," Gruben and Darryl McLeod address the effects of currency competition on a nation's monetary policy. The authors present a simple theoretical model that suggests that as capital markets open either officially or informally, central banks will respond to currency competition by lowering monetary growth in a pattern that causes inflation to converge with that of the issuers of the competing currency or currencies—at least they do if central banks respond to dollarization by maximizing seigniorage.

Empirical tests of this hypothesis for 37 countries, including 15 in Latin America, suggest that currency competition is a legacy of past inflation and a constraint on future inflation. The test results also support the argument that currency competition complicates monetary policy and prudential regulation but has accelerated the sharp fall in and convergence of inflation rates over the past decade.

Immigration and Labor Economics

CLAE researchers carried out extensive research on immigration and labor economics, focusing on workers' illegal behavior in both developing and industrial countries. This research included examinations of migration from developing countries to industrial countries. CLAE researchers also addressed issues associated with so-called informal, or black market, sectors in emerging nations.

In "What Are the Consequences of an Amnesty for Undocumented Immigrants?" Pia M. Orrenius and Madeleine Zavodny discuss the position of undocumented immigrants in the United States and the likely economic consequences of an amnesty program. The last such program, the Immigration Reform and Control Act, was designed to end undocumented immigration by legalizing certain unauthorized immigrants and preventing future inflows. To accomplish its objective, the act required employers to verify workers' eligibility to work legally and increased funding for the Border Patrol.

The act failed in its primary goal. There are at least 8 million undocumented immigrants in the United States, most of whom are working. Moreover, Orrenius and Zavodny offer evidence that the emphasis on border enforcement has not reduced illegal immigration much but has cost millions of dollars and hundreds of lives.

Even so, the authors argue, the act's failures offer lessons for designing an amnesty plan that would improve the lives of the currently undocumented, minimize adverse effects on other groups and stem the continuing tide of undocumented immigrants. Orrenius and Zavodny explain why a combination of another amnesty program and a guest worker program might work best. The latter would let low-skilled immigrants work temporarily in the United States but would also give them incentives to return home or provide them with a legal way to remain permanently in the United States.

In "Accounting for Fluctuations in Social Network Usage and Migration Dynamics," Mark G. Guzman, Joseph H. Haslag and Orrenius address the role social networks play in the migration process for migrants of different ages. Potential migrants rely on social networks for information about migration routes, employment opportunities and housing.

Guzman, Haslag and Orrenius point out the growing evidence that the importance of networks has changed. They argue that network use waxes and wanes and that prior literature on networks does not account for these changes. Prior literature, they observe, argues that network capital is a perfect complement to the number of existing migrants, a number that is imagined never to decrease.

Adhering to the idea of perfect complementarity forecloses any examination in which network capital takes other forms, so the authors take an alternative approach. They model network capital accumulation as an investment. While this investment is related to the volume of migrants, it also accounts for the possibility that migrants choose how much to invest in maintaining and improving the network infrastructure.

The authors characterize the channels through which networks affect migration and focus on three aspects of migration: time spent crossing the border, time spent finding a job after crossing the border and the quantity of funds remitted to elderly family members. Moreover, they consider a broad range of barriers to migration.

The authors show that the number and properties of steady-state equilibrium and the global dynamics depend on whether returns to network capital accumulation have constant, increasing or decreasing returns to scale relative to the level of network capital. The fluctuations in network capital the model captures are consistent with recent data about Mexican immigrants' use of social networks.

In the case of increasing returns to scale, either there is a unique steady-state equilibrium or multiple equilibriums characterized as either sinks or saddles. When returns to scale decrease, a unique, stable steady-state equilibrium can materialize. The authors show that increased barriers to migration result in an increase in the flow of immigrants, contrary to the desired effect, in cases of constant or increasing returns to scale.

In "The Implications of Capital-Skill Complementarity in Economies with Large Informal Sectors," Amaral and Quintin address worker skill differences between formal and informal sectors in developing countries. In most such nations, formal workers are older, more experienced and educated, and make more money than workers in the untaxed, unregulated informal sector. Analysts often interpret this as testimony that low-skill workers face barriers to entry into the formal sector, but there is little direct evidence this is true.

Given the lack of strong evidence of the segmentation such barriers would create, a natural question is whether and how the documented differences in worker characteristics and earnings between the two sectors could exist where labor markets are competitive.

Amaral and Quintin do not use these contradictions to reject the idea of competitiveness. Instead, they create a model in which significant differences between formal and informal workers exist even when labor markets are perfectly competitive. In equilibrium, the informal sector emphasizes low-skill work because managers have access to less outside financing and so substitute low-skill labor for physical capital. Thus, borrowing constraints have implications for labor markets in developing countries. Indeed, the authors' main assumption is that unskilled labor is a better substitute for physical capital than skilled labor. The relevance of this assumption seems clear, inasmuch as data from both industrialized and developing countries suggest complements between capital and labor skill.

In "Immigrant Assimilation: Is the U.S. Still a Melting Pot?" Orrenius characterizes the difference between the assimilation of Hispanic and other immigrants and the policy implications of these differences. She shows that the school dropout rates of first-generation Hispanic (foreign-born) immigrants are substantially higher than non-Hispanics'. Hispanics' improvement in the second and third generations is more rapid than non-Hispanics', although Hispanic dropout levels remain high in these groups.

Wages show a similar pattern. First-generation Mexican male immigrants make about 60 percent less than white non-Hispanic natives. By the third generation the difference improves to a 29 percent deficit. Orrenius points out that the education gap explains most of the wage deficit. She cites model results to show that the causes of the educational deficit among the children of Hispanic immigrants include lower household income, limited English proficiency, lower parental education and larger family size.

Orrenius outlines policy implications of the education gap. She argues that legalizing illegal immigrants would address the role parents play in their children's educational outcomes. She notes that legal status could lower the costs of education and increase the avenues for financing higher education through student loans. It would also broaden employment opportunities because illegal status limits them. She points out that some states with the highest share of immigrants—including California and Texas—spend below the national average on K–12 education. Orrenius observes that second and third generation Hispanics assimilate not to the national schooling average but to the Hispanic average. She argues that worrying about immigrant assimilation boils down to worrying about ethnic differences in U.S. educational outcomes and that "when it comes to the economic melting pot, we need to make sure there is only one pot."

2004 Research and Shorter Analysis References

Amaral, Pedro S., and Erwan Quintin, "Making Finance Matter," Federal Reserve Bank of Dallas Center for Latin American Economics Working Paper No. 0104.

———, "The Implications of Capital-Skill Complementarity in Economies with Large Informal Sectors," Federal Reserve Bank of Dallas Center for Latin American Economics Working Paper No. 0404.

Brandt, Elias, Scott Dressler and Erwan Quintin, "The Real Impact of Financial Crises," Federal Reserve Bank of Dallas *Economic and Financial Policy Review*, Vol. 3, No. 1.

Gruben, William C., "Have Mexico's Maquiladoras Bottomed Out?" Federal Reserve Bank of Dallas *Southwest Economy*, Issue 1, January/February.

———, "Empirically Testing Maquiladora Conventional Wisdoms," paper presented at the 2004 annual meetings of the Western Economic Association International, Vancouver, June 29–July 3.

Gruben, William C., and Sarah Darley, "The 'Curse' of Venezuela," Federal Reserve Bank of Dallas *Southwest Economy*, Issue 3, May/June.

Gruben, William C., and Darryl McLeod, "Currency Competition and Inflation Convergence," Federal Reserve Bank of Dallas Center for Latin American Economics Working Paper No. 0204.

———, "The Openness–Inflation Puzzle Revisited," *Applied Economics Letters*, Vol. 11, Issue 8, June.

Gruben, William C., and John H. Welch, "Is Tighter Fiscal Policy Expansionary Under Fiscal Dominance? Hypercrowding Out in Latin America," paper presented at the 2004 annual meetings of the Western Economic Association International, Vancouver, June 29–July 3.

Guzman, Mark G., Joseph H. Haslag and Pia M. Orrenius, "Accounting for Fluctuations in Social Network Usage and Migration Dynamics," Federal Reserve Bank of Dallas Research Working Paper No. 0402.

Kydland, Finn E., and Carlos E. J. M. Zarazaga, "Argentina's Capital Gap Puzzle," Federal Reserve Bank of Dallas Center for Latin American Economics Working Paper No. 0504.

Monnet, Cyril, and Erwan Quintin, "Why Do Financial Systems Differ? History Matters," Federal Reserve Bank of Dallas Center for Latin American Economics Working Paper No. 0304.

Orrenius, Pia M., "Immigrant Assimilation: Is the U.S. Still a Melting Pot?" Federal Reserve Bank of Dallas *Southwest Economy*, Issue 3, May/June.

Orrenius, Pia M., and Madeline Zavodny, "What Are the Consequences of an Amnesty for Undocumented Immigrants?" Federal Reserve Bank of Atlanta Working Paper No. 2004-10.

Quintin, Erwan, "Mexico's Export Woes Not All China-Induced," Federal Reserve Bank of Dallas *Southwest Economy*, Issue 6, November/December.

Other Activities

In addition to research and writing, CLAE staff members and visiting scholars participated in other activities that gave visibility to the Federal Reserve Bank of Dallas and the center.

When CLAE visiting scholar Finn Kydland received the Nobel Prize for economics, his CLAE coauthor, Carlos Zarazaga, traveled to Stockholm to attend the ceremonies. Kydland and Zarazaga presented "Argentina's Capital Gap Puzzle" at the annual meeting of the Argentinean Association of Political Economy in Buenos Aires and again at a seminar at Argentina's Universidad Austral. They presented "Argentina's Lost Decade and Subsequent Recovery: Hits and Misses of the Neoclassical Growth Model" at Texas A&M University and the University of Greenwich in England.

Zarazaga discussed Alejandro Neut and Andrés Velasco's "Tough Policies, Incredible Policies?" at the National Bureau of Economic Research's Inter-American Seminar on Economics in Cambridge, Mass. He also discussed Banco de México economist Jesus Gonzalez García's "The Effect of Annual Inflation Targets on the Conduct of Monetary Policy During the Disinflation Process in Mexico" at a Federal Reserve Bank of Atlanta conference, "Strategies for Implementing Monetary Policy in the Americas: The Role of Inflation Targeting."

CLAE Director General William C. Gruben presented "Is Tighter Fiscal Policy Expansionary Under Fiscal Dominance? Hypercrowding Out in Latin America" at the meetings of the Western Economic Association International in Vancouver. He presented the same paper in Spanish at Universidad Autónoma de México in Mexico City. At the Western Economic Association International meetings, Gruben also presented "Empirically Testing Maquiladora Conventional Wisdoms" and discussed Alicia Giron's "The Mexican Financial Sector Ten Years After NAFTA" and Noemí Levy Orlik's "Open Market Operations Limitations in Countries with Restricted Lender of Last Resort: The Mexican Experience in the Nineties." His co-discussant was Dallas Fed Executive Vice President Harvey Rosenblum.

At the fall meetings of the Federal Reserve System Committee on International Economics Analysis, Gruben discussed "The Value of Financial Intermediaries: Empirical Evidence from Syndicated Loans to Emerging Market Borrowers," by Gregory Nini. Darryl McLeod presented "Currency Competition and Inflation Convergence," which he wrote with Gruben, at the Latin American and Caribbean Economic Association meetings in San Jose, Costa Rica. Gruben's article "Economic Rebound" was published in *Twin Plant News*, and "Venezuela's Problems Run Deeper Than Chavez" appeared in *Dow Jones Capital Markets*.

Pia M. Orrenius, along with coauthors Mark G. Guzman and Joseph H. Haslag, presented "Accounting for Fluctuations in Social Network Usage and Migration Dynamics" at the meeting of the Federal Reserve System Committee on International Economic Analysis and again at the Southern Economic Association meetings in New Orleans. These same authors presented "Coordination, Sunspots and Endogenous Volatility: An Application to Illegal Immigration" at the Latin American and Caribbean Economic Association meetings in San Jose.

Orrenius and coauthor Roberto Coronado presented "The Impact of Illegal Immigration and Enforcement on Border Crime Rates" at the annual meeting of the Population Association of America in Boston. She presented "Immigration, Economic Growth and Recent Policy Impacts" at the Inter-American Development Bank Remittance Conference in Washington, D.C., and "Self-Selection Among Undocumented Immigrants from Mexico," which she coauthored with Madeline Zavodny, at a seminar at the University of California at San Diego. Orrenius was a moderator at the Federal Reserve Bank of Chicago conference "Financial Access for Immigrants: Learning from Diverse Perspectives."

Visiting scholar Pedro Amaral and CLAE coauthor Erwan Quintin presented "Making Finance Matter" at the annual meeting of the Argentinean Association of Political Economy in Buenos Aires. Quintin served as a visiting expert at the European Central Bank. He presented "Growing Old Together: Firm Survival and Employee Turnover," coauthored by John Stevens, at a seminar at Arizona State University. Quintin organized 16 seminars at the Federal Reserve Bank of Dallas and presented "Is China Eating Mexico's Lunch?" to the Dallas Fed's board of directors and again to the Society of International Business Fellows.

Center for Latin American Economics
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P.O. Box 655906
Dallas, TX 75265-5906
Fax: 214-922-5194
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E-mail: clae@dal.frb.org

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Sincerely,

William C. Gruben
Director General
Phone 214-922-5155

Sincerely,

Carlos E. Zarazaga
Executive Director
Phone 214-922-5165

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P.O. Box 655906
Dallas, TX 75265-5906
Fax: 214-922-5194
214-922-5189
E-mail: clae@dal.frb.org

El Banco de la Reserva Federal de Dallas ha establecido el Centro para Estudios Económicos Latinoamericanos con el propósito de crear una red de comunicación y discusión sobre temas económicos entre investigadores y estudiosos de las economías de América Latina así como entre éstos y aquellos con responsabilidades en decisiones de política económica en los países del área. Invitamos a todos ellos a hacerse socio del centro. No hay ninguna cuota de afiliación o suscripción.

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Sincerely,

William C. Gruben
Director General
Phone 214-922-5155

Sincerely,

Carlos E. Zarazaga
Executive Director
Phone 214-922-5165

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2200 N. Pearl St.
Dallas, TX 75201–2272
www.dallasfed.org