



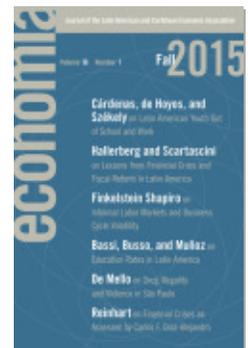
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The Antecedents and Aftermath of Financial Crises as Told by Carlos F. Díaz-Alejandro

ABSTRACT Some of the best-known papers of Carlos F. Díaz-Alejandro were about Latin America's crises in the 1980s and 1930s. I show data, figures, and evidence about the crises in the advanced economies thirty years later that fit the same narrative. His unadulterated words aptly describe modern problems across geographical borders and, in this case, income levels. This attests to his timeless insight and understanding. Because some of the observations he made have general applicability to the study of recurring patterns across crises, I have taken the liberty to label these lessons. These are primarily lessons about what to avoid.

JEL Classification: B26, E5, E6, F3, G01

Keywords: Financial crisis, debt, commodity prices, overvaluation, capital flows

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The author wishes to thank Guillermo A. Calvo, Graciela L. Kaminsky, Maurice Obstfeld, Vincent Reinhart, and Kenneth Rogoff for helpful comments and suggestions. Ernesto Zedillo, himself a student of Díaz-Alejandro, deserves special thanks for encouraging the author during a visit to Yale in 2010 to write about Díaz-Alejandro's contributions.

In preparation for this lecture, I read most of Carlos F. Díaz-Alejandro's works. I had already read and re-read some of his papers over the course of many years, especially those most directly connected to financial crises. His influence on how I view the onset, evolution, and aftermath of crisis is undeniable.¹ In what follows, I begin with a brief biographical note about Díaz-Alejandro, who, like me, was born in Havana, Cuba. I, unfortunately, never met him. The remaining discussion is a tour of his works. Since his writing style usually mixes clarity, color, and wit, I have opted to rely extensively on direct quotes.

The unifying thread of the narrative is the anatomy and sequence of a financial crisis according to Díaz-Alejandro. In some of his best-known papers, he was writing about Latin America's crises in the 1980s. All the data, figures, and evidence I present here are about the crises in the advanced economies thirty years later. The fact that his unadulterated words so aptly describe modern problems attests to his timeless insight and understanding, which applies with

1. For the recurring Díaz-Alejandro-esque themes in my works, see Calvo, Leiderman, and Reinhart (1993) on the importance of external factors explaining boom-bust cycles in Latin America; Kaminsky and Reinhart (1999) on financial liberalization as a driver of banking problems and external crises; Reinhart and Rogoff (2009) on the sequencing of crises and the protracted nature of the recovery; and Reinhart and Reinhart (2010) on the long leverage cycles around crises.

force across geographical borders and, in this case, income levels. Because some of the observations he made have general applicability to the study of recurring patterns across crises, I have taken the liberty to label these lessons. These are primarily lessons about what to avoid.²

Since it is the Latin American and Caribbean Economic Association that honors his memory with the Carlos Díaz-Alejandro Prize, it seems appropriate to circle back and conclude the tour of his writings with the following question: Is another Latin American crisis brewing?

Carlos F.

Carlos F. Díaz-Alejandro started in Yale in 1961 as an assistant professor in the department of economics immediately after completing his graduate training at the Massachusetts Institute of Technology (MIT). He took a brief detour to the University of Minnesota, but in 1969 he returned to Yale to become the youngest full professor ever in the economics department up until that point. In 1983, he moved to Columbia University. By that time, at the age of 45, the high quality of his work had established him as a distinguished, indeed preeminent, Latin American economics scholar. His last years yielded the writings for which Carlos is now most cited in the economics literature. Carlos died in July 1985, leaving behind not only an amazing intellectual output, but also a multitude of students, colleagues, friends, and academic devotees who loved the man at least as much as his writings.

Reading Díaz-Alejandro should give anyone hope that economics can be encompassing, engaging, and occasionally humorous. He addressed a broad range of topics with an open mind but was guided by a respect for the past. He emphatically cared about public policy.

Kindleberger, his professor, mentor, and friend, recalls that when Carlos went to MIT in the late 1950s, it was with the wish to put his training to good use on his return to his beloved Cuba. In his application for admission more than half a century ago, he wrote that he was

hopeful that sound and dynamic economic policies could do a great deal toward improving the general standard of living in my country, Cuba. This fact has weighed

2. On the theme of past lessons for the present and the future in the spirit of Díaz-Alejandro (1983b), see, for instance, Gourinchas and Obstfeld (2012), who emphasize the antecedents and early warning symptoms of financial crises. Another example is Kaminsky and Pereira (1996), who deal primarily with the aftermath of severe crises, including an analysis of postcrises investment collapses that carries a great deal of current resonance, especially for the European post-2009 experience.

heavily in my decision to select Economics as my career. I would like to . . . have a general knowledge in all fields of Economics and mastery of the principles governing economic development and growth and the governmental policies which would be appropriate to facilitate them. . . . After receiving my Ph.D. degree, I hope to find employment in the Department of Economic Research of the Cuban National Bank. Later on, I would like to formulate, or help to formulate, the policies of that institution and those of the government.³

Notwithstanding the passage of time and the changes in the world since Carlos died, he is intellectually alive today, and his work is hugely pertinent for the challenges of our time. To build that case, I illustrate that his reality-based economic analysis has aged very well indeed. Along the way, I provide a brief tour of some of his most important contributions and highlight some instances in which his work has influenced other scholars in his field. Reading Díaz-Alejandro is a must for students of financial crises and highly recommended for anyone interested in trade and development, as well.⁴ His 1970 *Essays on the Economic History of the Argentine Republic* is a classic that continues to influence today's leading economic historians.⁵

Timeless Policy Relevance

Carlos's writings often drew on the lessons of history, particularly those involving serious policy mistakes, to forge practical (and often eclectic) policy advice for the world's underdogs.⁶ In his day, they were called less-developed countries (LDCs). In our more "politically correct" time, they are emerging markets when the countries in question are middle income and developing countries when they are low income. Carlos often liked to refer to the advanced and emerging country groups as north and south, respectively.

Whatever we choose to call them, many of the policy challenges (and the mistakes, for that matter) have not changed much in the three decades since Díaz-Alejandro wrote his last papers.⁷ Furthermore, some of the differences between advanced and developing economies that emerged after World War II and were prevalent at the time he was writing have narrowed in recent years.

3. See Kindleberger (1989).

4. I am using the term *financial crises* in its broadest sense, including banking, currency, debt, and inflationary crises.

5. See, for example, Della Paolera and Taylor's (2001) authoritative account of the famous Barings crisis of 1890.

6. See Kindleberger (1989); also see the long list of policy recommendations in Díaz-Alejandro (1984).

7. At present, Greece has entered a banking holiday and has become the first advanced economy to default on its obligations to the International Monetary Fund.

The 2007–08 financial crises in advanced economies shared many traits with emerging market crises in terms of their severity, loss of access to international capital markets (in some cases), and the sharp credit downgrades that ensued, among other features.⁸ On this basis, I argue that many of the insights found in his works are universal in scope.

The Tour Begins: Five Lessons on Why Financial Crises Happen

In “Goodbye Financial Repression, Hello Financial Crash,” Díaz-Alejandro makes a number of observations that I have distilled into five lessons.⁹ All of the lessons highlight some form of policy failure at both micro- and macro-economic levels. Taken together, they describe a process “where domestic financial intermediation flourished and then collapsed.” While Díaz-Alejandro offers these insights in the narrative of a particular crisis, Andrés Velasco, his student at Columbia University at the time, formalized the core elements of the story in a model of the twin crises. According to both authors, banking problems emerge first and set the stage for currency collapse.¹⁰ The proximate causes of the crises are policy inconsistencies amplified by distortions in the financial sector.

Whether or not deposits are explicitly insured, the public expects governments to intervene to save most depositors from losses when financial intermediaries run into trouble. Warnings that intervention will not be forthcoming appear to be simply not believable.

Lesson 1: We Have a Serious Domestic Moral Hazard Problem

The belief that officials will step in to protect people from the results of their mistakes makes people more willing to take on risk. This is the “heads you win; tails your government loses” attitude that often characterized official responses to the financial crash following the bursting of the subprime bubble

8. For analyses of various dimensions of the similarities between advanced and emerging economies’ crisis patterns, see Reinhart and Rogoff (2009) and Gourinchas and Obstfeld (2012).

9. Most of the quotes in this paper are from Díaz-Alejandro (1985), unless otherwise indicated.

10. Díaz-Alejandro (1985); Velasco (1987). In Velasco (1987), there is no sovereign default on external debt. Default is avoided because it is assumed that the central bank’s initial stock of foreign reserves is sufficient to cover all the external debts of the banking sector. Private debts become public debt at the time of the banking crisis, prompting a sudden decline in central bank reserves. However, if the initial level of reserves proved insufficient, then the banks and the sovereign would be simultaneously bankrupt.

in 2008 and 2009. It is also applicable to numerous crises since the paper was written in the mid-1980s. Díaz-Alejandro goes on to explain that nothing the government can say before the fact can credibly convince people that they will not be protected after the fact. After all, wounded investors are also aggravated voters.

Foreign lenders take government announcements that it will not rescue local private creditors, especially banks, with non-guaranteed external (or domestic) liabilities even less seriously than depositors take the threat of the loss of their money.

Lesson 2: We Have an Even More Serious External Moral Hazard Problem

Foreign investors also recognize that governments worry about continued access to world markets. So great is the worry, in fact, that officials will take over private obligations to foreigners at a time of stress. Private debt becomes a public burden.

The central banks, either because of a misguided belief that banks are like butcher shops or because of lack of trained personnel, neglected prudential regulations over financial intermediaries.

Again, he was writing about Chile in the early 1980s, not Iceland, Ireland, Spain, the United States, or the many other countries that were hit by crisis post-2008.

Lesson 3: Central Banks and Their Regulatory and Rating Agency Colleagues Made the Moral Hazard Problem Worse

Time and time again, the expertise of those who watch falls short of those who are watched, because of the public sector belief in the wisdom and discipline of markets and the compensation practices of the private sector. These supervisory failures make officials more willing to use taxpayer resources to clean up their mistakes.

Table 1 crystalizes this point with an example. In the years leading up to the Icelandic crisis of 2007, gross external debt almost quadrupled to about four times gross domestic product (GDP) by 2006, and the current account deficit reached 26 percent of GDP (from a surplus only four years earlier). Throughout, sovereign credit ratings were essentially unchanged.

In economies characterized by intractable market and informational imperfections, conglomerates and economic groups, even as they may correct government-induced financial repression imperfections, could exacerbate others, particularly via the creation of oligopolistic power.

TABLE 1. Iceland: Evolution of Credit Ratings, 2002–08^a

Year	Current account/GDP	Gross external debt/GDP	Domestic credit/GDP	Moody's ratings on long-term debt		Standard & Poor's ratings on long-term debt	
				Domestic	Foreign	Domestic	Foreign
2002	1.6	122.3	104.8	Aaa	Aaa	AA+	A+
2006	-25.7	423.9	304.6	Aaa	Aaa	AA	A+
2008	-28.3	697.2	185.9	Baa1	Baa1	BBB+	BBB-

Source: IMF, *International Financial Statistics* and *World Economic Outlook* (various issues); Moody's, Standard & Poor's; World Bank, *Quarterly External Debt Statistics* (QEDS).

a. External debt is public plus private, while domestic credit is exclusively private. See table A1 in the appendix for an explanation of the ratings.

Lesson 4: Financial Deregulation Exacerbates the Too-Big-to-Fail Problem. Indeed, the objective of every small or medium-sized institution is to become too big to fail.

At a time of stress, officials inevitably become concerned that the failure of one firm will trigger failures at many other firms. That concern is greater the larger and more interconnected is the firm, and this moral hazard creates serious incentive problems. The protections afforded to such too-big-to-fail entities lead competitors to try to get big and interconnected, as well. This unhappy pattern after financial deregulation explains not only the risk taking of large, complicated financial intermediaries that helped to stoke the fires of the subprime financial crisis, but also the official response of widespread bailouts that followed.

The combination of pre-announced or fixed nominal exchange rates, relatively free capital movements, and domestic and external financial systems characterized by the moral hazard and other imperfections set the stage not only for significant micro-economic misallocation of credit, but also for macroeconomic instability, including the explosive growth of external debt.

Lesson 5: Inconsistent Incentives in the Financial Sector Trigger Macroeconomic Crises

The above quotation in its full form applies to countries in the euro area. If the fixed nominal exchange rate clause is dropped, it also becomes applicable to the United Kingdom and the United States, as well as Japan before the 1992 crisis and many other countries and crises. Díaz-Alejandro also observes that despite producing higher real interest rates, financial liberalization did not deliver higher domestic savings, as advertised in the academic and policy

literature of the time—in effect, saving rates declined markedly.¹¹ He further argues that there was little to suggest that investment had become more productive as a result of financial liberalization. He notes that much of the post-liberalization borrowing had the worrisome features of being skewed toward shorter maturities and foreign currencies, which left countries vulnerable to the vagaries of volatile financial markets when the time came to roll over debts. That is, these inconsistent incentives may trigger crisis themselves.

As early as the 1960s (his dissertation), Carlos identifies the problem (particularly acute in developing countries) of borrowing in someone else's currency, a phenomenon now widely known as liability dollarization.¹² This borrowing pattern is further complicated by the fact that the (foreign) currency in which the debt is denominated is usually a hard currency (at least in relation to the home one), so large and or frequent devaluations or depreciations of the domestic currency unequivocally worsen balance sheets.¹³

The Tour Continues: The Anatomy of Crises

Skimming the surface of his contributions here should be sufficient to entice the interested reader to further investigate his insightful writings. Fear not to tread, because these papers set an admirable benchmark of accessibility.

Díaz-Alejandro was discussing Chile in the early 1980s; the relevance is of recent vintage. The story begins with liberalization, reforms, and innovations in the financial industry, “aimed at generally seeking to free domestic capital markets from alleged government-induced distortions.”¹⁴ As is quite clear by now, the story ends badly. The liberalization process “yielded domestic financial sectors characterized by widespread bankruptcies, massive government interventions, . . . and low domestic savings.” That is, it is a story of two parts, before and after.

11. For example, in the United States, the personal saving rate was about 12 percent in 1981, before the last wave of financial liberalization; it was at a historic low of less than two percent when the 2007–08 financial crisis began.

12. Díaz-Alejandro (1965).

13. I wish to thank Guillermo Calvo for pointing out this early reference to liability dollarization in Carlos's work. Calvo also informed me that it was Maurice Obstfeld who found the original reference and pointed it out to him, a fact Obstfeld subsequently confirmed. See Calvo, Izquierdo, and Mejía (2008) for compelling empirical evidence on the quantitative importance of these balance sheet effects.

14. Díaz-Alejandro (1985).

Good-bye Financial Repression ...

The historical context of Díaz-Alejandro's last paper involves the so-called *tablitas* that helped define the inflation stabilization programs of the Southern Cone (Argentina, Chile, and Uruguay) in the late 1970s and early 1980s.¹⁵ All three countries had been battling (unsuccessfully) high and chronic inflation. The *tablitas* were pre-announced schedules for the path of the nominal exchange rate (broadly, a crawling peg system with a declining rate of crawl). It was not quite a peg, but nonetheless the nominal exchange rate was tied to the U.S. dollar in the expectation that ultimately their inflation rates would converge to that of the United States.

There are parallels with the European experience prior to the introduction of the euro. The inflation rates in the Southern Cone were much higher than the rates recorded in the European periphery, but the approach to disinflation, where the periphery's exchange rate shadowed a lower-inflation anchor currency (the German mark) with the aim of achieving convergence, is essentially the same.

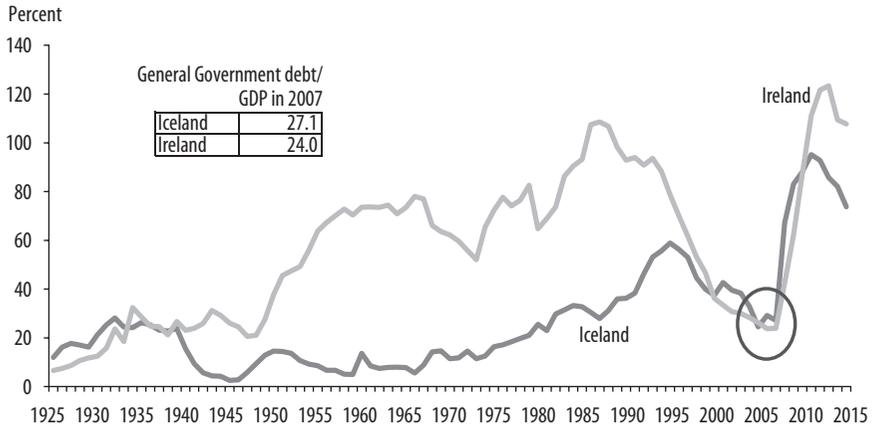
Fiscal conditions differed markedly across the Southern Cone during this period. In particular, it is accepted that the fiscal positions of Argentina and Uruguay were significantly weaker than that of Chile. Domestic financial liberalization was accompanied by a meaningful reduction in capital controls (external liberalization), so Díaz-Alejandro considers a country that had liberalized its domestic financial sector and was fully integrated into world capital markets. Describing Chile, he observes that "the recorded public sector deficit was nonexistent, miniscule, or moderate; the declining importance of ostensible public debt in the national balance sheet was celebrated by some observers."

To illustrate that the analysis has aged well, in what follows, Iceland and Ireland step in to take over the role played in an earlier era by Chile (Spain could be added to this list). Greece's considerably weaker fiscal conditions at the outset of the crisis were closer to Argentina's predicament in the early 1980s, but with markedly higher levels of domestic and external public debt.¹⁶ As figure 1 illustrates for Iceland and Ireland, public debt hovered around 20–30 percent of GDP at the outset of the crisis, which can be safely considered relatively low by most historical or cross-sectional standards.

The private sector was a different matter. Their spending persistently exceeded their income, giving rise to large current account deficits. The current account

15. See Díaz-Alejandro (1981); Végh (1992).

16. Relative to Argentina, Greece also had a markedly higher level of private debt—a potential contingent liability of the public sector, as discussed below.

FIGURE 1. Iceland and Ireland: Government Debt as a Percent of GDP, 1925–2015^a

Source: IMF, *World Economic Outlook* (various issues); Reinhart and Rogoff (2009).

a. The circle highlights 2007, when general government debt over GDP was 27.1 in Iceland and 24.0 in Ireland.

deficit was financed by large and persistent capital inflows, which is a different way of saying that the domestic largesse was supported by borrowing heavily from the rest of the world. Figure 2 shows gross external debt (public and private) for Iceland and Ireland. The ratio of external debt to GDP rose by more than 400 percentage points in both countries in the five years before the crisis, possibly establishing an all-time precrisis record for either advanced or emerging economies.¹⁷

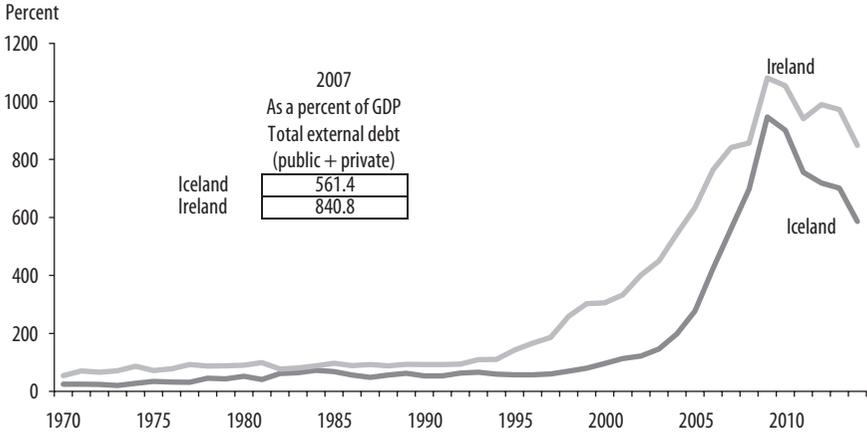
This abundance of foreign capital made it easy for domestic banks to lend liberally to businesses and households (figure 3).¹⁸ During the credit boom, real estate and equity prices soared along with the debts. Growth seemed inevitable. However, as Carlos explains, the pity of the boom is that

little effort was spent on investigating the credentials of new entrants to the ever-growing pool of lenders and borrowers. . . . Practically no inspection or supervision of bank portfolios existed. . . . One may conjecture, however, that most depositors

17. The scale of external debt recorded for Iceland, Ireland, and other European countries is a multiple of the highest levels reached around emerging market crises.

18. The strong connection between external capital flows and domestic credit cycles is a recurring theme in Díaz-Alejandro's work, dating back to his 1970 economic history of Argentina. Mendoza and Terrones (2012) generalize and reaffirm this connection for a large panel of advanced and emerging economies.

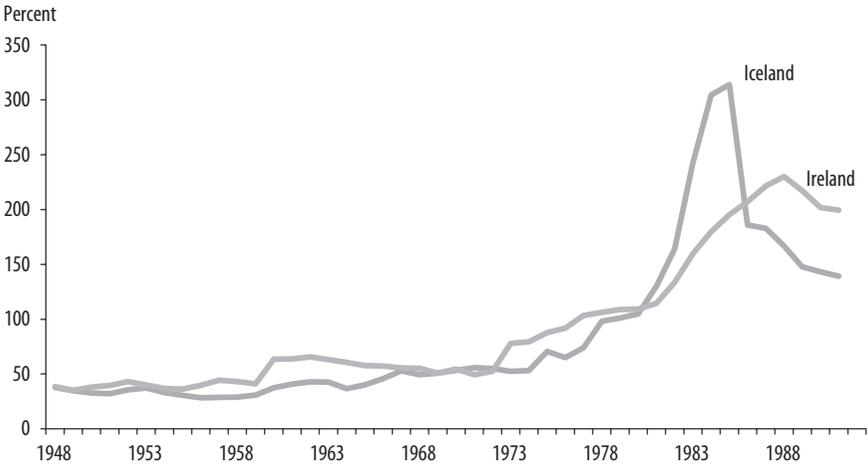
FIGURE 2. Iceland and Ireland: Total Gross External Debt as a Percent of GDP, 1970–2014^a



Source: IMF, *International Financial Statistics*; Lane and Milesi-Ferreti (2010); World Bank, *Quarterly External Debt Statistics* (QEDS).

a. Total gross external debt includes both public and private debt. In 2007, total external debt was 561.4 percent of GDP in Iceland and 840.0 percent of GDP in Ireland.

FIGURE 3. Iceland and Ireland: Private Domestic Credit as a Percent of GDP



Source: IMF, *International Financial Statistics*.

TABLE 2. Selected Indicators: Iceland and Ireland, Changes 1997 to 2007^a

<i>Country</i>	<i>Real house prices (percent)</i>	<i>Domestic private debt/GDP</i>	<i>Gross external debt/GDP</i>	<i>Deterioration in the current account/GDP</i>
Iceland	66.9	243.3	501.0	13.9
Ireland	114.8	107.6	654.9	8.7

a. The debt buildups and housing price increases are calculated over 1997–2007.

felt fully insured and foreign lenders felt that their loans to the private sector were guaranteed by the State.

These passages capture much of the essence of Díaz-Alejandro’s analysis of “the unintended consequences of financial liberalization in Latin America during the late 1970s.” Unfettered laissez-faire banking engaged in borrowing from the rest of the world at one end to support indiscriminate domestic lending at the other end.

If Carlos’s description of events has a modern-day resonance, it is because variants of this story aptly describe the evolving state of affairs in the years before many, if not most, of the worst financial crises since his article was published in the mid-1980s. In effect, the surge in asset prices, notably housing prices, and borrowing of the advanced economies in the bonanza decade prior to the recent crisis dwarfs the size of the lending booms that Carlos was describing for emerging Latin America. As table 2 makes plain, real (inflation-adjusted) housing prices more than doubled in most cases during 1997–2007. The boom in asset prices, spending, and the size of the financial industry was fueled by a surge in leverage, as illustrated in figures 2 and 3 and table 2, which shows the cumulative increase in debt from 1997 to 2007.

Apart from housing or equity prices, another feature of the stop-go cycle that Díaz-Alejandro stressed is that the boom and the eventual fiasco that followed are importantly connected to the relative price of traded and nontraded goods or the real exchange rate.¹⁹ For instance, his discussion of the inflation stabilization programs of the Southern Cone countries highlights the key role played by “currency overvaluation” (or significant real exchange rate appreciations) in explaining the widening current account deficits and setting the stage for the banking and currency crises that ushered in the debt crisis.²⁰

His work is intertwined with a rich and influential literature on this topic. Guillermo Calvo’s frameworks elegantly connect the dynamics of the real

19. Díaz-Alejandro (1970, 1981, 1983b, 1985).

20. Díaz-Alejandro (1981).

exchange rate and the boom-bust cycle to lack of credibility (in the sense that the reforms are not expected to stick).²¹ Some of Rudiger Dornbusch's writings on this topic are seminal.²² With a wealth of data on the developing country experience, Sebastian Edwards's book on the subject addresses the eternal question of measuring misalignments.²³ More recently, Kaminsky and Reinhart and Gourinchas and Obstfeld arrive at a similar conclusion on the key role of the real exchange rate in connection with the recurrent boom-bust cycles.²⁴ Both studies conclude that currency overvaluations are among the top leading indicators of financial crises (notwithstanding different methodological approaches and samples).²⁵ The richness of the policy debate on what to do about the overvaluation problem in the context of Mexico in the 1990s was famously manifest in Dornbusch and Werner's paper and Calvo's discussion thereof.²⁶ A related discussion is alive and well in the context of the European periphery's competitiveness challenges.

Hello Financial Crash

As leverage mounted, the precariousness of the balance sheets of Chilean financial institutions became evident, and failures began to emerge. Díaz-Alejandro's account of the unfolding crisis could easily be describing any number of countries and crisis years:

The Central Bank undertook rescue operations of banks and other financial intermediaries . . . to avoid a breakdown of the financial system. . . . The opaqueness of the intervention procedures, and of the announced processes to settle the tangled web of inter-company and bank debts, even raised questions about the regime's respect for property rights or at least its willingness to provide effective mechanisms for the efficient exercise of those rights.

Figure 4 plots the number of insolvencies for Iceland from 1990 to 2014. True to the script, the impact of the crisis needs little explanation. Furthermore, as figure 1 shows, public debt (as a percent of GDP) in Iceland and Ireland quickly climbed from around 30 percent to over 100 percent. This is largely attributable to the fact that private debts before the crisis quickly became public debts during the crisis (as banks were rescued). As the governments

21. Calvo (1986, 1989).

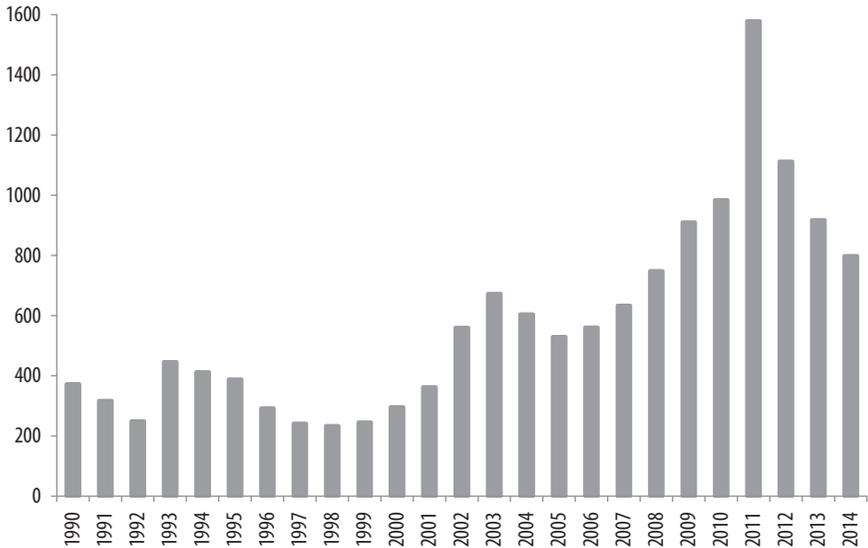
22. See Dornbusch (1986) and references therein.

23. Edwards (1989).

24. Kaminsky and Reinhart (1999); Gourinchas and Obstfeld (2012).

25. See Frankel and Saravelos (2012) for a discussion of the role of overvaluations in the 2008–09 crises and a comprehensive survey of the literature.

26. Dornbusch and Werner (1994); Calvo (1994).

FIGURE 4. Iceland: Insolvencies of Enterprises, 1990–2014

Source: Statistics Iceland (www.statice.is).

lost access to private international capital markets, they began to rely more heavily on official creditors, including the International Monetary Fund (IMF), and the central bank.

The legacy of the severe financial crises that Carlos F. Díaz-Alejandro wrote about in the early 1980s eventually became known as the lost decade for Latin America. As early as 1982, he pointedly characterized the 1980s as a decade of “hangover, penance, and purges.”²⁷ Few observers had pinned the diagnosis for developing countries so accurately or so early: namely, a long decade filled with lower capital inflows, tough borrowing conditions, debt problems, and diminished economic growth.²⁸ Speculating on the crises’ aftermath, he and his co-author write:

The growth rates of gross national products of major semi-industrialized borrowers could decline, even relative to those of 1973–1980, while pressure to expand exports and restrain imports will continue.... The outlook for the poorest LDCs remains somber and their need for concessional finance great.²⁹

27. Bacha and Díaz-Alejandro (1982).

28. Bacha and Díaz-Alejandro (1982).

29. Bacha and Díaz-Alejandro (1982).

Apart from his prescient concerns about the growth prospects of highly indebted countries after the crisis, he was also worried about how the downward adjustment in expenditures was achieved. Specifically, Díaz-Alejandro was concerned with the then-emerging evidence that the brunt of the adjustment was coming from investment rather than consumption and that the violent reduction in investment would impair both present and future growth.

The worst aspect of Latin American macroeconomic performance during 1982 and 1983 is not to be found so much in the contraction of absorption (total expenditures) and output, bad as those were, particularly in per capita terms; the worst was the violent reduction in investment, which impaired not only present but future growth, even granting the existence of substantial excess capacity.³⁰

For the largest eight Latin American economies, real per capita GDP growth averaged 2.6 percent per year from 1950 to 1980; in the decade that followed, annual per capita GDP growth averaged -0.7 percent. Not until the Brady debt restructuring plan of 1989 did these countries resolve the debt overhang left from the financial crisis nearly a decade earlier.

If the antecedents of severe financial crises that Carlos described ring true in summarizing the run-up to the 2007–08 crisis, so did his characterization of slow growth, low investment, and debt overhang in their aftermath. As Reinhart and Reinhart document, a decade of lower growth in the wake of a severe financial crisis is not unique to the emerging market crises of the early 1980s.³¹ It is also a feature of the postcrisis experience in advanced economies, even when there is no loss in capital market access or a distinct decline in the terms of trade. To illustrate, figure 5, from that paper, plots the frequency distributions of real per capita GDP growth in the decades before and after five systemic post-WWII crises in advanced economies.

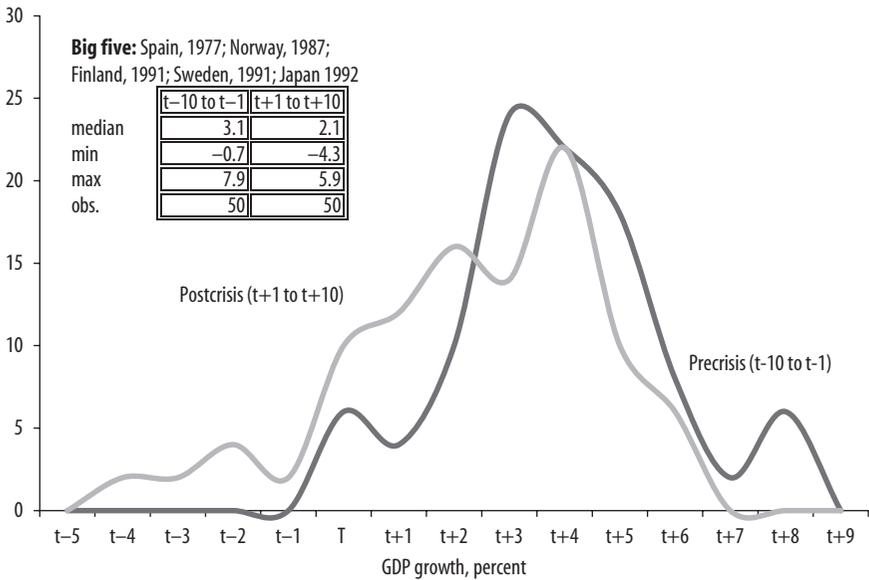
Apart from a worsening of the external environment for developing countries in the early 1980s, the penance-and-purges era of low growth that Bacha and Díaz-Alejandro anticipated may also be connected to the more general multi-year leverage or debt cycle surrounding these crises.³² In that paper, which is an encompassing discussion of international capital market developments in the 1970s (with Carlos's usual dose of historical examples), the role of intermediation and banks is connected to economic activity and developments in

30. Díaz-Alejandro (1983b). Kaminsky and Pereira (1996), who compare the Asian and Latin American experiences, provide empirical backing to Carlos's hunch that this kind of adjustment would inflict long-term damage on Latin America.

31. Reinhart and Reinhart (2010).

32. Bacha and Díaz-Alejandro (1982).

FIGURE 5. Real per Capita GDP Growth in the Decade before and the Decade after Severe Financial Crises: Post-WWII, Advanced Economies³



Source: Reinhart and Reinhart (2010).

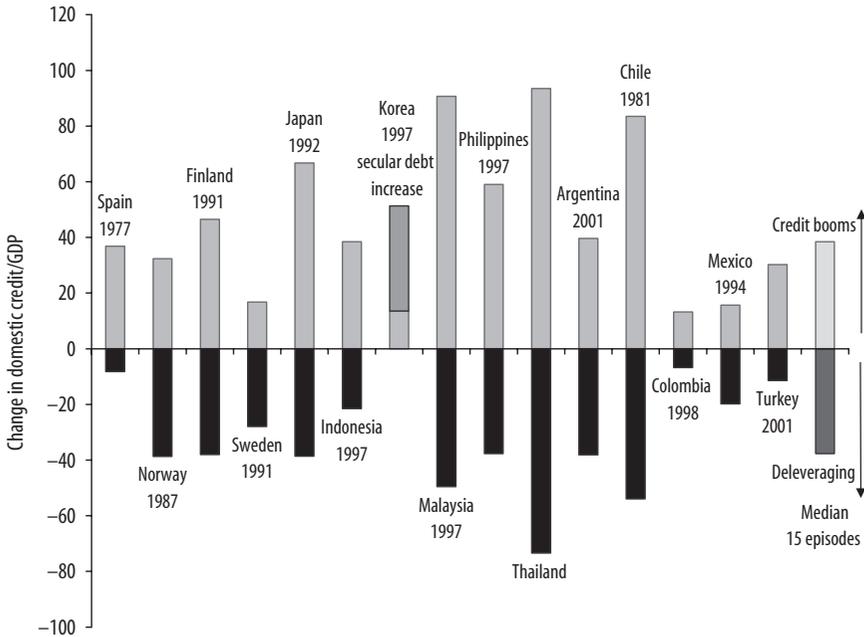
a. The figure plots the real per capita GDP growth of Spain (1977 crisis), Norway (1987), Finland (1991), Sweden (1991), and Japan (1992). The summary statistics for the sample are as follows:

Statistic	Period	
	t-10 to t-1	t+1 to t+10
Median	3.1	2.1
Minimum	-0.7	-4.3
Maximum	7.9	5.9
No. observations	50	50

the current account (what would later be referred to as global imbalances).³³ Figure 6 highlights how, for both advanced and emerging market financial crises, a full private sector debt cycle involves both significant debt buildups ahead of the crisis (the median increase in the ratio of domestic credit to GDP is almost 40 percent) and a comparable degree of deleveraging afterward. The deleveraging phase provides significant headwinds to growth. As table A1 in the appendix documents, the full cycle can last between one and two decades.

33. There is much discussion and documentation of shifts in current account balances across time and broad country groupings.

FIGURE 6. The Ratio of Domestic Banking Credit to GDP Twenty-One Years around Severe Financial Crises: Amplitude of Boom-Bust Credit Cycles in Fifteen Post-WWII Episodes^a



Source: Reinhart and Reinhart (2010). See also table A1 in the appendix.

a. The magnitude of the credit booms shown corresponds to the difference between the maximum ratio of domestic bank credit to GDP around the crisis and the precrisis low for the ratio in the ten-year window preceding the crisis. Similarly, the extent of deleveraging is calculated as the minimum credit-to-GDP ratio in the ten-year window after the crisis and the maximum ratio around the crisis. The specific dates and magnitudes for each episode are listed in table 3. For Korea, there is an uninterrupted secular rise in domestic bank credit to GDP in 1987–2007 (the ten-year window around the crisis); postcrisis deleveraging appears to be confined to external debt (see Reinhart, 2010).

As Reinhart and Rogoff document for the hundred worst financial crises since 1860, not every deep financial crisis leads to a lost decade, as was the case for Latin America in the 1980s and for a large number of countries in all regions in the 1930s.³⁴ They find that the average number of years to recover the precrisis peak in per capita GDP is about eight years (the median is six and a half years).

Table 3 updates Reinhart and Rogoff’s exercise with the latest projections of real per capita GDP from the International Monetary Fund’s *World Economic Outlook*, as of April 2015, which currently extend to 2020. The sixth

34. Reinhart and Rogoff (2014). The Great Depression of the 1930s was also a recurring topic or point of reference in Diaz-Alejandro’s works.

TABLE 3 . Real per Capita GDP, Crises, and Recovery: 2007–21^a

<i>Country and year</i>	<i>Peak to trough (% change)</i>	<i>Peak to trough (years)</i>	<i>Peak to recovery (years)</i>	<i>Severity index</i>	<i>Breakeven year</i>
France, 2008	-3.8	2	9	12.8	2016
Germany, 2008	-5.3	1	3	8.3	2011
Greece, 2008	-25.8	6	14	39.8	2021?
Iceland, 2007	-9.9	3	9	18.9	2016
Ireland, 2007	-12.6	3	11	23.6	2018
Italy, 2008	-10.8	7	14	24.8	2021?
Netherlands, 2008	-5.0	5	10	15.0	2018
Portugal, 2008	-7.4	6	12	19.4	2019
Spain, 2008	-9.0	6	11	20.0	2018
Ukraine, 2008	-14.8	1	12	26.8	2020
United Kingdom, 2007	-5.9	5	8	13.9	2015
United States, 2007	-4.8	2	6	10.8	2013
<i>Summary statistic</i>					
Mean	-9.6	3.9	9.9	19.5	
Median	-8.2	4.0	10.5	19.2	
Standard deviation	6.1	2.2	3.2	8.6	

Source: Reinhart and Rogoff (2014), updated with IMF, *World Economic Outlook*, April 2015.

a. Figures in italics were calculated using IMF estimates for 2015–20.

column in the table shows, in particular, the estimated number of years that it will take to get back to the precrisis peak in per capita GDP. In the 2007–08 wave of crises, seven or eight years have elapsed since the start of the crisis (depending on the country). If the projections for the remaining years through 2020 are approximately correct, Greece and Italy will not recover their precrisis per capita output until beyond 2020, placing these episodes among the most protracted since the mid-nineteenth century. That is, the average may come closer to ten years, producing another crop of lost decades.

In the lost decade that Carlos was warning about, with the dismal performance of Latin American economies after the debt crisis of 1981–82, the ratio of investment to GDP fell more than 5 percentage points, on average, from 1981 to 1990. The closing of access to foreign funding, the undermining of domestic financial institutions, and the crowding out of the private sector from large government budget deficits all work to restrain capital formation, contributing to the slower growth of output. These mechanisms, as table 4 suggests, apparently work in the north as well as the south and across exchange rate regimes. The share of investment to nominal GDP of Iceland (a currency floater) and Ireland (in a currency union) has fallen about 9 percent since their banking debacles.

TABLE 4. Investment-to-GDP Ratios: Iceland and Ireland, 2000–15

Country	Average, 2000–07	Average, 2008–15	Change	2015
Iceland	26.1	16.8	–9.3	17.1
Ireland	26.6	17.6	–9.1	18.4

Source: IMF, *World Economic Outlook* (various issues).

Advanced Economies' Debt: I Don't Think We Are in Kansas Anymore

In his commentary on Díaz-Alejandro's paper, "Latin American Debt: I Don't Think We Are in Kansas Anymore," Jeffrey Sachs begins by reminding readers that the original *Wizard of Oz* by L. Frank Baum is itself partly an economic parable.³⁵ The Wicked Witch of the East represents eastern capitalists who dehumanize kindly laborers like the Tin Woodman.³⁶ The word *Oz* is probably constructed by one-letter transposition of NY, the home of the predatory capitalists. President McKinley at that time (and the International Monetary Fund today) is cast as the wizard.

The new and jarring landscape that Díaz-Alejandro presciently predicted was one of government budget deficits and enlarged debts. Much of the deterioration traces back to the process of cleaning up the balance sheets of countless financial firms and often taking on existing or newly toxic private debts.³⁷ What was evident to Carlos midstream is what the world is currently undergoing. From 2007 to 2015, the ratio of government public debt to GDP for the advanced economies rose by more than 30 percent (figure 7), with the greatest increases recorded in countries that had major financial crises. This is the largest peacetime increase on record.

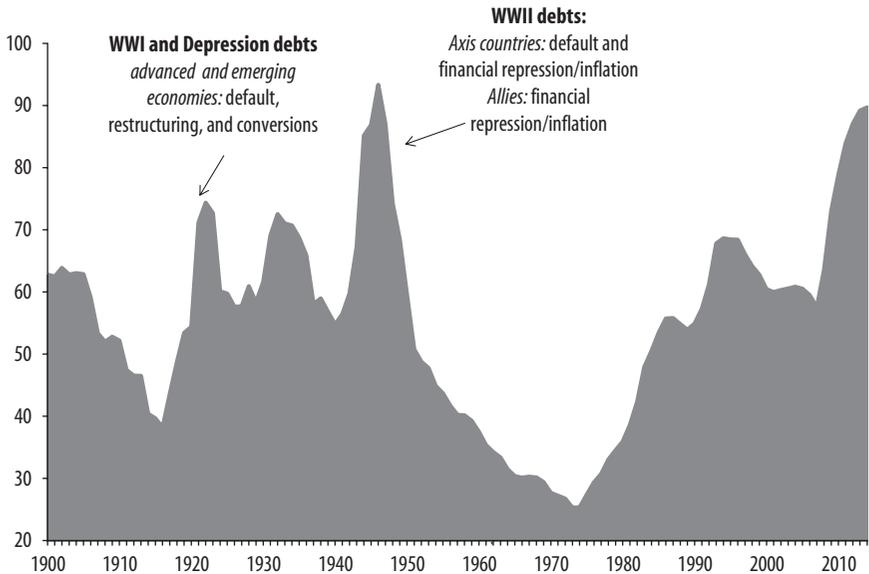
Beginning in 2010, almost all Fannie Mae and Freddie Mac mortgage pools were consolidated and explicitly included in the debt of U.S. government enterprises, raising the public-debt-to-GDP ratio by about 25 percentage points in the first quarter alone. The expectations of foreign private investors and central banks in Asia and elsewhere in the world—which bought these U.S. "private" assets before the crisis based on the assumption of such a government guarantee—have been fully vindicated.

Thus, ex post it turned out that the public sector . . . had been accumulating an explosive amount of contingent liabilities to both foreign and domestic agents, who held deposits in, or made loans to, the rickety domestic financial sector.

35. Díaz-Alejandro (1984); Sachs (1984).

36. See Littlefield (1964).

37. Reinhart and Rogoff (2009) also document the significant declines in government revenues associated with the postcrisis recessions.

FIGURE 7. Public Debt as a Percent of GDP: Advanced Economies, 1900–2015

Source: IMF, *World Economic Outlook* (various issues); Reinhart and Rogoff (2009).

Carlos referred to this hidden public debt as a potential time bomb—an expression that would be aptly used again a quarter of a century later to describe the aftermath of the 2007–08 crisis.³⁸ This blurring of the line separating public and private debt and the resulting implication that a debt management strategy for private debts is also needed to avoid the crisis is recognized by some prominent policymakers.³⁹

Reflections (Mostly on Policy)

It is not my aim here to draw overly simplified conclusions from Carlos's substantial body of work, but rather to point out that, in keeping with his graduate school application, Carlos was eminently practical in drawing out the policy implications of his analytic assessment. Three issues seem especially pertinent for our time.

38. Daniel Fisher, "The Global Debt Bomb," *Forbes*, 20 January 2010.

39. See Obstfeld's (2014) take on Stanley Fisher's Robbins Lectures, delivered at the London School of Economics late in 2001.

International Capital Mobility

That Díaz-Alejandro viewed tackling moral hazard, too big to fail, and supervisory lapses as essential to reducing vulnerability to financial crises follows from the preceding discussion and is reiterated below. His skepticism about the ability of officials to regulate and the eagerness of investors to assume they are protected made him suspicious about the benefits of unfettered international capital mobility.⁴⁰

Large capital outflows, in most cases encouraged by unconditional currency convertibility, provided a particularly explosive environment for the interaction of external shocks and imperfect policies.⁴¹

His concerns were not exclusively about finance, but also about the composition of foreign capital:

This paper reconsiders the implications of an inflow of capital from abroad. When the host country continues to import the capital-intensive good while remaining incompletely specialized, the analysis shows that the capital inflow must reduce host-country welfare, assuming that the foreign capital receives the full (untaxed) value of its marginal product.⁴²

Given this diagnosis, he was led to the conclusion that much more needed to be done with regulation, whether implemented domestically or internationally.

Moral-hazard considerations on both sides of the market, or expectations of bailouts, reinforce the case for home-country supervision of international financial flows; if home countries do not undertake that supervision, others will do it for them.

Furthermore, Carlos's work highlights that large capital inflows from abroad generate policy dilemmas for exchange rate policies where there are no silver bullets. Large capital inflows and appreciating currencies tend to go hand in hand. Currency appreciations have the appeal of making foreign debts easier to repay and reducing inflationary pressures (as imports become cheaper); currency appreciation, however, also makes domestic goods less competitive in world markets, hitting the export industry and worsening trade balances. As Díaz-Alejandro was leery of sharp and rapid appreciations (factors he associated with a higher vulnerability to financial crises), this might suggest that he would lend a sympathetic ear to the efforts of numerous emerging

40. Díaz-Alejandro and Helleiner (1982).

41. Díaz-Alejandro (1984).

42. See Brecher and Díaz-Alejandro (1977).

markets (not to mention Switzerland) to lean against the wind of an abruptly appreciating currency. This latter statement is, of course, pure conjecture.

Rescheduling Private and Public Debts

With regard to rescheduling private and public debts, Carlos appears to have favored an eclectic approach. In his paper with Bacha, they come to the following conclusion:⁴³

Attempts to lay down universal and explicit rules for rescheduling debt, such as requiring an IMF presence in all circumstances, appear misguided under present conditions.

For economies that are recently in the process of recovering from a severe financial crisis, Díaz-Alejandro's work stresses that recovery from a debt overhang is a difficult and often lengthy process characterized by subpar growth. The subject of debt overhangs straddles his analyses of the 1980s, the Great Depression of the 1930s, and several earlier crisis episodes. My interpretation of his recommendations in several papers is that an eclectic approach toward the restructuring of public and private debts that is tailored to the particular circumstance and that avoids the outright defaults so prevalent in the 1930s, should be an integral part of the solution to the debt overhang problem.

For countries in the feast-phase of the cycle, he very clearly cautions that any buildup in private debts is to be viewed as the contingent liabilities of the government. Benign neglect toward private debts (domestic and external), in Carlos's own words, is a policy best described as a time bomb.

Systemic Reforms

Around the same time, in his 1984 Brookings paper, he recommended a modest package of systemic reforms. Specifically, he recommended "expand[ing] IMF resources (which could be borrowed) so that at least the potential for sensible stabilization programs would exist."⁴⁴ He did not, however, consider the IMF to be an adequate or appropriate mediator in times of crisis:

Despite misgivings about past and present IMF policies and lending practices, it could be argued that . . . it was better to have an imperfect IMF at hand than having no IMF at all. Yet it is debatable that a role acceptable in a crisis should become a permanent IMF responsibility. The international equivalent to "bankruptcy judges"

43. Bacha and Díaz-Alejandro (1982).

44. Díaz-Alejandro (1984).

found in the United States and other industrial countries remains to be created. The IMF, being itself a lender and a borrower, even if in a unique nonprofit fashion, would not be institutionally suited for the role of bankruptcy judge.⁴⁵

Here, Díaz-Alejandro considers the art of the possible. An international institution, the IMF, already exists that can be made more effective in dealing with crises. But temper any enthusiasm, because the inherent tension in its design of representing borrowers and lenders limits its effectiveness.

Latin America after the Bonanza

Repeated cycles of prosperity and depression, driven by global factors that are exogenous to open or semi-open economies, are a recurring theme in Carlos Díaz-Alejandro's work.⁴⁶ He was drawn to this research because of his focus on the economic performance of Latin America, but these cycles are alive elsewhere.

The United States and some European economies are recovering, albeit rather slowly, from the worst collective financial catastrophe since the 1930s. Emerging markets fared relatively well during the maelstrom of 2008. The fact that the developing world prospered during the deep crisis in the advanced economies and its long aftermath is perhaps most surprising for historically crisis-prone Latin America.⁴⁷ Some observers attribute this resilience to the fact that many emerging markets (emerging eastern Europe exempted) had, by both current comparisons and historic standards, relatively low levels of external public and private debt. So, even when buffeted by a sharp decline in their exports, an abrupt loss of external financing, and declining economic growth at the height of the global phase of the crisis, the solvency of the governments and the general ability of the private sector to meet its immediate debt obligations were not called into question.

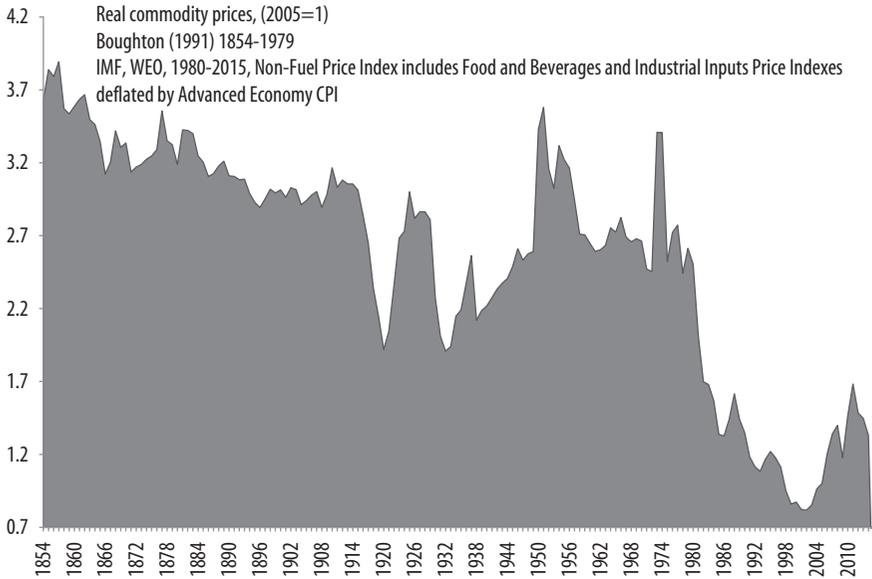
After the crisis, the coupling of poor growth and low interest rates in the north set into motion the usual stampede of international investors into the more rapidly growing south, in their eternal quest for high yields.⁴⁸ Capital inflows to Latin America surged. For primary commodity exporters, booming

45. Díaz-Alejandro (1983a).

46. See Díaz-Alejandro (1970, 1975, 1976, 1983b).

47. This resilience is a sharp contrast to the 1930s, when emerging market economies collapsed as financial crises swept the northern economies (see Díaz-Alejandro, 1983b).

48. Notably absent from international capital markets this time around were Argentina and Venezuela.

FIGURE 8 . Real Commodity Prices: 1854–2015^a

Source: Boughton (1990); IMF, *International Financial Statistics* and *World Economic Outlook* (various issues).

a. Real commodity price index, where 2005 = 1. Data for 1854–1979 are from Boughton (1991); data for 1980–2015 are from the IMF Non-Fuel Price Index, deflated by the advanced economy consumer price index.

world prices added to their luster (figure 8). Through 2013, emerging markets were in the feast-phase of the old feast-and-famine cycle that Carlos so carefully described. It is at this juncture of the cycle that investors and policymakers have often been deceived into thinking that *this time is different*.⁴⁹

The notion that foreign capital pours in to reward virtuous policy and reforms has often proved too tempting to resist. Nor is this phenomenon or popular delusion (most prominent when things are going well) alien to the wealthier economies. Indeed, that very same tune of this time is different was often used to describe the “euro-transformations” of Greece, Ireland, Portugal, and Spain during the precrisis boom.

Unlike prior commodity price booms, this time a number of Latin American governments did, on the whole, manage to avoid procyclical fiscal policies (at least in the early stage of the commodity boom).⁵⁰ Furthermore, governments

49. See Reinhart and Rogoff (2009).

50. Unfortunately, Brazil took several steps back on this front.

had already reoriented their financing strategy inward, avoiding their historic reliance on external debt. But, as Carlos argues, fiscal prudence during the boom is necessary, but seldom sufficient. Borrowing abroad at low international interest rates when their currencies were either stable or appreciating against the dollar was a tempting proposition for private firms and banks. As the capital inflow bonanza matured, some of its usual less attractive characteristics became manifest. Current account deficits reappeared, as did domestic credit booms and currency overvaluation.⁵¹ Growth began to slow.

Much of Latin America (and developing countries in general) saw the prosperous phase of their cycle ease or come to a halt altogether during the spring of 2013, when the U.S. Federal Reserve announced its plans to gradually withdraw from its exceptionally accommodative policies of the last few years. The prospect of rising world interest rates coincided with a downturn in global commodity markets. While some countries benefited from declining oil prices, the dominant effect of tumbling commodities prices was unmistakably negative. Many Latin American currencies began to depreciate in earnest.⁵²

Interest rate cycles in financial centers and booms and busts in commodity prices are classic external factors through much of history. The emergence of China as an economic power and engine of growth for the developing world, on the other hand, is fairly modern. China's investment-led growth fueled the boom phase of the cycle for emerging economies, and its unfolding slowdown (along with its efforts to reorient toward domestic consumption) is now contributing to the economic downturn evident in many emerging markets, Latin America included.

Last, but certainly not least, a sharply appreciating dollar in early 2015, on the heels of what (in many cases) were already significant domestic currency depreciations, has increased external debt burdens. The old liability dollarization problem resurfaces.⁵³ In Díaz-Alejandro's world, large depreciations (devaluations) can be contractionary because of the aforementioned adverse balance sheet effects or because these exchange rate swings are redistributive. His framework suggests that a depreciation will lower aggregate consumption,

51. Brazil's rapidly rising volume of nonperforming consumer loans is evidence of the boom's legacy. Barchfield reports that an estimated 30 percent of disposable income now goes to debt servicing (including credit cards); the comparable figure cited for the United States is 5 percent (Jenny Barchfield, "Amid Brazil's Economic Crisis, Consumers Struggle to Pay off Debts Run up in the Good Times," *Fox News Latino*, 15 June 2015).

52. The Brazilian real has depreciated by about 60 percent since March 2013; the Colombian peso by almost 50 percent.

53. Díaz-Alejandro (1965).

as it shifts the purchasing power to the exporters/capitalists (who have a low propensity to consume), while it lowers the real purchasing power of wage earners (who have a high propensity to consume).⁵⁴

At a conjuncture such as this, one hopes that Carlos's description of the state of affairs in the region in the early 1980s will not have to be applied to the here and now.

Blaming victims is an appealing evasion of responsibility, especially when the victims are far from virtuous. But when sins are as heterogeneous as those of the Latin American regimes of 1980, one wonders how well the exemplary mass punishment fits the alleged individual crime. Most Latin American economies, for a variety of domestic and external reasons, in 1980–81 faced the need for reform and adjustment to the new international economic environment. However, the response was slow, and policy errors continued to be made. Yet the incompetence and torpor of policy-makers do not fully explain the depth of the depression of the early 1980s in Latin America and the mediocre outlook for recovery.⁵⁵

The bonanza decade of 2003–13 is over, and we are not in Kansas anymore.

Appendix: Supplementary Tables

TABLE A 1. Credit Ratings on Long-term Obligations

<i>Moody's</i>	<i>Standard & Poor's or Fitch</i>	<i>Explanation of rating</i>
<i>Investment grade</i>		
Aaa	AAA	Highest grade; lowest risk
Aa	AA	High grade; low risk
A	A	Above average grade; relatively low risk
Baa	BBB	Average grade; medium risk
<i>Speculative grade</i>		
Ba	BB	Payment likely, but uncertain
B	B	Currently able to pay, but risk of future default
Caa	CCC	Poor liquidity; clear risk of default
Ca	CC	Very doubtful liquidity; frequent default
C	C	Lowest grade; extremely poor outlook for repayment
	D	In default

54. Díaz-Alejandro (1963). On the issue of whether currency depreciations were output enhancing, he kept an open mind (as in many other matters). Díaz-Alejandro (1965), for instance, presents the case for expansionary effects of a devaluation/depreciation.

55. Díaz-Alejandro (1983b).

TABLE A 2 . Ratio of Domestic Bank Credit to GDP Ten Years before and after Severe Financial Crises: Fifteen Post-WWII Episodes^a

Country and crisis year	Domestic credit surges				Postcrisis deleveraging				
	Minimum credit ratio in 10 years prior to crisis		Maximum credit ratio around the crisis		Difference (column 3 minus column 1)		Lowest ratio in the 10 years after the crisis		Difference (column 6 minus column 3)
	Level (1)	Year (2)	Level (3)	Year (4)	Level (6)	Year (7)	Year (8)		
<i>Advanced economies</i>									
Spain, 1977	65.6	1967	102.5	1976	36.8	94.2	1980	-8.2	
Norway, 1987	130.0	1980	162.4	1988	32.4	123.7	1994	-38.7	
Finland, 1991	46.4	1981	92.9	1991	46.5	54.9	1997	-38.0	
Sweden, 1991	56.1	1985	72.9	1989	16.8	45.0	1996	-27.9	
Japan, 1992	193.8	1982	260.5	1996	66.7	221.9	1997	-38.6	
<i>Emerging economies: 1997 Asian crisis</i>									
Indonesia*	23.6	1987	62.1	1999	38.4	40.6	2007	-21.5	
Korea**	50.5	1988	64.1	1997	13.6	No postcrisis deleveraging through 2008	2007	-49.6	
Malaysia	72.7	1990	163.4	1997	90.7	113.8	2007	-37.7	
Philippines	19.5	1991	78.5	1997	59.0	40.9	2007	-73.4	
Thailand**	84.1	1988	177.6	1997	93.5	104.2	2007	-38.1	
<i>Emerging economies: Other episodes</i>									
Argentina, 2001*	22.3	1992	61.9	2002	39.7	23.8	2008	-53.9	
Chile, 1981*	31.1	1971	114.7	1985	83.5	60.5	1991	-6.8	
Colombia, 1998	29.2	1992	42.5	1998	13.2	35.7	2008	-19.8	
Mexico, 1994**	37.3	1990	53.0	1997	15.7	33.2	2005	-11.4	
Turkey, 2001**	22.5	1991	52.7	2001	30.3	41.4	2004	-37.7	
<i>Memorandum item</i>									
Median for 15 episodes					38.4				

Source: IMF, *International Financial Statistics*, Norges Bank (website), Reinhart and Rogoff (2009), Reinhart (2010), and author's calculations.

a. An asterisk (*) indicates that a sovereign default (or restructuring) took place during or shortly after that episode; a double asterisk (**) indicates a near-default episode, as defined in Reinhart (2010), where a default was avoided with major international assistance. The use of italics denotes that the deleveraging process is ongoing according to the latest available data.

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