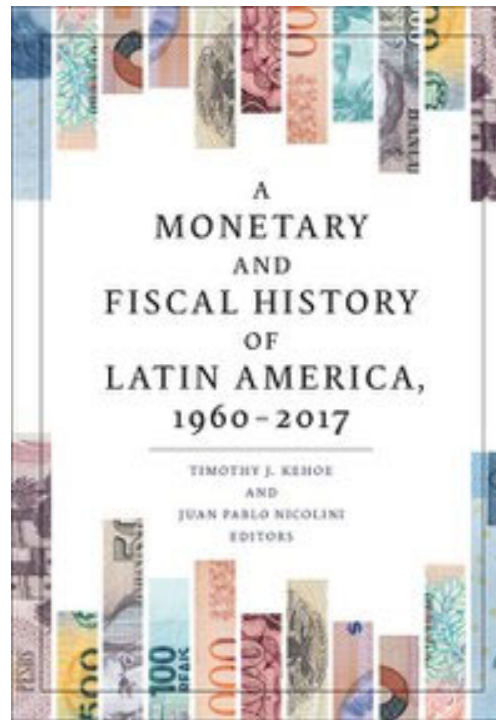**A Monetary and Fiscal History of Latin America, 1960–2017**

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Monetary and Fiscal Policy in Latin America
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Economic histories of eleven Latin American countries — Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay, Venezuela — over the period 1960–2017 that tell narratives using a common government budget accounting framework based on that in Sargent's *Rational Expectations and Inflation*.

Foreword by Francois Velde.

F. Alvarez, L. P. Hansen, and T. J. Sargent, "Detecting Fiscal-Monetary Causes of Inflation."

T. J. Kehoe, J. P. Nicolini, and T. J. Sargent, "A Framework for Studying the Monetary and Fiscal History of Latin America, 1960-2017."

C. Esquivel, T. J. Kehoe, and J. P. Nicolini, "Lessons from the Monetary and Fiscal History of Latin America."

The Latin American Tragedy

El desarrollo es un viaje con más náufragos que navegantes.

—Eduardo Galeano, *Las venas abiertas de América Latina*, 1971.

¿En qué momento se había jodido [América Latina]?

—Mario Vargas Llosa, *Conversación en la catedral*, 1969.

The book's hypothesis

In Latin American countries, periods of poor economic performance have coincided with episodes of financial crises. The specific symptoms of each crisis have been very different: high inflation rates, balance of payments crisis followed by large devaluations, banking crises, default on government debt, and confiscation of deposits, among others.

Our fundamental hypothesis is that, despite having different manifestations, all economic crises in Latin America since 1960 are the result of poorly formulated or poorly implemented fiscal policies.

What happened to Mexico in 1982?

In August 1982, Mexico suspended payments on its external debt denominated in dollars and was excluded from the international financial markets until the implementation of the Brady Plan in 1989.

We use government budget accounting to narrate the role of monetary and fiscal policy in Mexico during the debt crisis in 1982. Government accounting guides our narrative and suggests that factors other than large primary fiscal deficits played important roles in the crisis and in delaying economic recovery.

Mexico had large primary deficits 1979–1982.

Interest rates in the United States increased dramatically in 1982 (Volker Shock).

The price of crude petroleum fell in 1982.

Kehoe-Nicolini-Sargent government budget accounting

$$B_t + B_t^* E_t + M_t = P_t(D_t + X_t) + B_{t-1}(1 + r_{t-1}) + B_{t-1}^*(1 + r_{t-1}^*)E_t + M_{t-1}.$$

B_t stock of peso-denominated domestic debt;

B_t^* stock of dollar-denominated foreign debt;

E_t peso-dollar nominal exchange rate;

M_t stock of high-powered money;

P_t GDP deflator;

D_t deficit in national budget;

X_t residual that makes budget constraint hold;

$B_{t-1}(1 + r_{t-1})$ domestic debt and debt-service;

$B_{t-1}^*(1 + r_{t-1}^*)E_t$ foreign debt and debt service.

With some algebra, the government budget constraint becomes

$$(\theta_t - \theta_{t-1}) + \xi_t(\theta_t^* - \theta_{t-1}^*) + (m_t - m_{t-1}) + \left(1 - \frac{1}{g_t \pi_t}\right) m_{t-1}$$

$$= d_t + \left(\frac{(1 + r_{t-1})}{g_t \pi_t} - 1\right)\theta_{t-1} + \xi_t\left(\frac{(1 + r_{t-1}^*)}{g_t \pi_t^*} - 1\right)\theta_{t-1}^* + x_t$$

$(\theta_t - \theta_{t-1})$ domestic debt issuance $\theta_t = \dfrac{B_t}{P_t Y_t}$,

$\xi_t(\theta_t^* - \theta_{t-1}^*)$ foreign debt issuance $\theta_t^* = \dfrac{B_t^*/P_t^*}{Y_t}$, $\xi_t = \dfrac{E_t P_t^*}{P_t}$, $\xi_t \theta_t^* = \dfrac{E_t B_t^*}{P_t Y_t}$,

$(m_t - m_{t-1})$ money issuance $m_t = \dfrac{M_t}{P_t Y_t}$,

$\left(1 - \dfrac{1}{g_t \pi_t}\right) m_{t-1}$ seigniorage $g_t = \dfrac{Y_t}{Y_{t-1}}$, $\pi_t = \dfrac{P_t}{P_{t-1}}$

$$(\theta_t - \theta_{t-1}) + \xi_t(\theta_t^* - \theta_{t-1}^*) + (m_t - m_{t-1}) + \left(1 - \frac{1}{g_t \pi_t}\right) m_{t-1}$$

$$= d_t + \left(\frac{(1+r_{t-1})}{g_t \pi_t} - 1\right)\theta_{t-1} + \xi_t\left(\frac{(1+r_{t-1}^*)}{g_t \pi_t^*} - 1\right)\theta_{t-1}^* + x_t$$

d_t primary deficit $d_t = \dfrac{D_t}{P_t Y_t}$

$\left(\dfrac{(1+r_{t-1})}{g_t \pi_t} - 1\right)\theta_{t-1}$ domestic debt service

$\xi_t\left(\dfrac{(1+r_{t-1}^*)}{g_t \pi_t^*} - 1\right)\theta_{t-1}^*$ foreign debt service $\pi_t^* = \dfrac{P_t^*}{P_{t-1}^*}$

x_t residual $x_t = \dfrac{X_t}{P_t Y_t}$

Government budget accounting for Mexico, 1979–1985

	1979	1980	1981	1982	1983	1984	1985
Sources							
Domestic debt issuance	0.52	-5.13	2.51	7.11	1.10	-1.59	-1.24
Foreign debt issuance	-1.21	-0.60	6.38	6.05	-5.82	2.95	7.79
Money issuance	0.42	0.18	0.89	2.94	-2.33	-1.01	-4.26
Seigniorage	3.48	4.25	4.12	6.10	8.47	6.58	6.03
Total	3.21	-1.29	13.90	22.20	1.42	6.94	8.32
Obligations							
Primary deficit	7.10	2.86	7.61	3.37	-4.62	-5.21	-3.49
Domestic debt service	-3.14	-1.88	0.23	3.85	-0.33	0.47	0.87
Foreign debt service	-3.03	-1.40	-0.29	1.39	4.15	1.20	1.09
Transfer	2.28	-0.87	6.35	13.59	2.23	10.47	9.85
Total	3.21	-1.29	13.90	22.20	1.42	6.94	8.32

All variables are expressed as percent of GDP.

A series of devaluations in 1982 increased the value of public and private debt denominated in dollars. There was a large increase in seigniorage in 1982. Levels of foreign debt increased after 1982, despite the fact that Mexico could not obtain new loans, with the exception of some credits from the U.S. Treasury and the International Monetary Fund that had to be used to pay the interest on the external debt.

Very high levels of transfers starting in 1981.

Transfers

The government finds ways to increase spending and keep it out of the control of Congress, the scrutiny of the press, and the general public.

Bailout of the banking sector.

Poor accounting for profits and losses of public companies.

Losses of national development banks.

Implicit taxes and subsidies to some private agents via multiple exchange rates.

Different timing of spending and collecting taxes during years of high inflation (Olivera–Tanzi effect).

Institutional reforms can eliminate transfers: In Mexico, the average of transfers was 5.6% of GDP in 1980-1989, but only 0.6% of GDP in 1990-2017. Argentina, Brazil, Chile, Paraguay, and Uruguay have achieved a similar reduction in their transfers.

Esquivel, Nicolini, and I interpret these reforms as reductions in the incentives of private agents to engage in rent-seeking, especially during a period of crisis.

Multiple peso-dollar exchange rates in Mexico
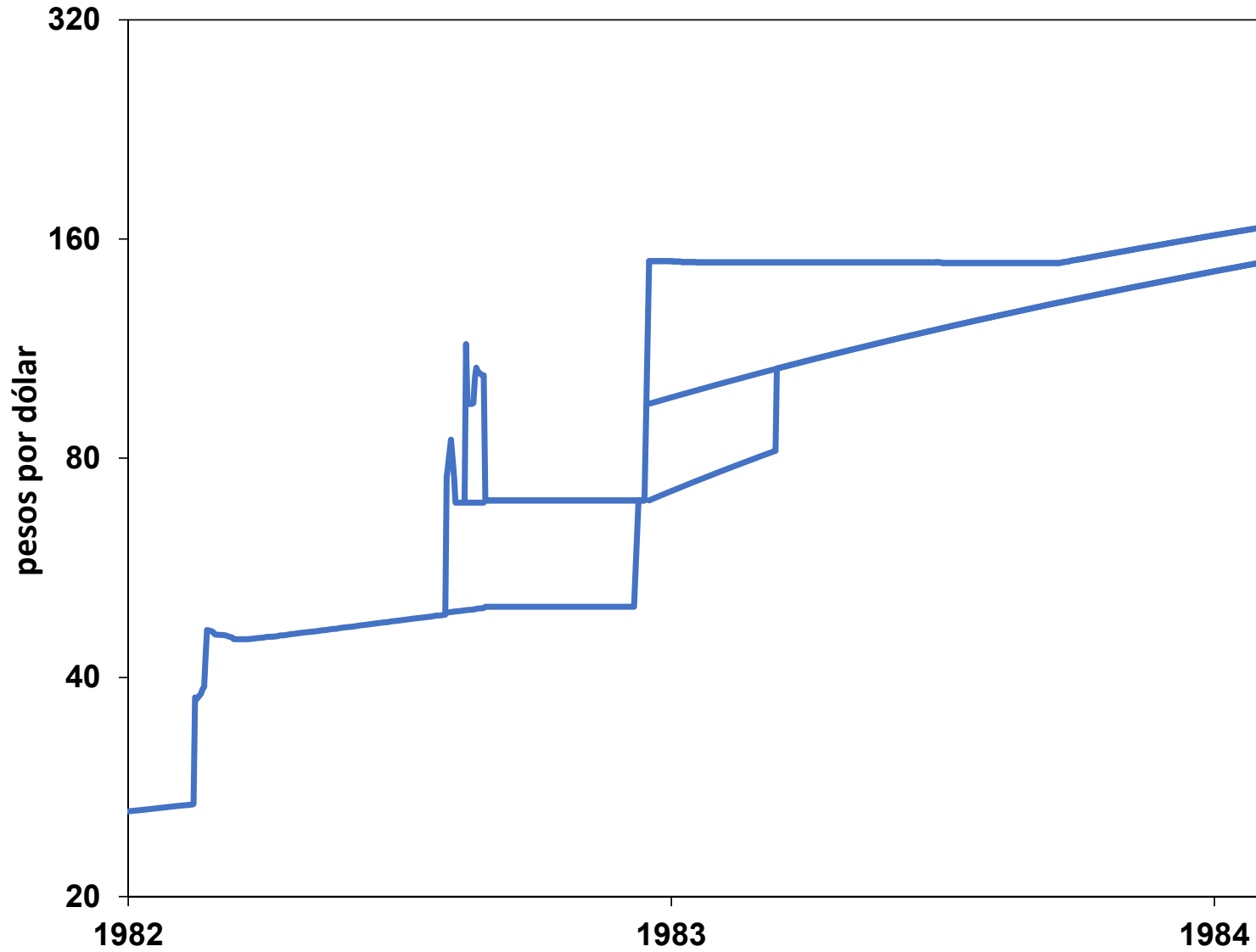
Multiple exchange rates

Implicit taxes

Some private agents were forced to use low peso-dollar exchange rates when buying pesos, or high peso-dollar exchange rates when selling dollars.

The Mexican middle class who moved their savings to Mexdollar accounts in 1982.

Maquiladoras.

Implicit subsidies

Some private agents were able to use high peso-dollar exchange rates when buying pesos, or a low peso-dollar exchange rate when buying dollars.

Large Mexican companies.

External debt and the real exchange rate

In the Kehoe-Nicolini-Sargent government budget accounting, we can write foreign debt issuance as

$$\xi_t(\theta_t^* - \theta_{t-1}^*) = (\xi_t\theta_t^* - \xi_{t-1}\theta_{t-1}^*) - \theta_{t-1}^*(\xi_t - \xi_{t-1}).$$

The first term measures how much the value of the foreign debt changed as a percentage of GDP from year *t-1* to year *t*.

The second term measures how much was due to the change in the real exchange rate.

In 1982, external debt to GDP, $(\xi_t\theta_t^* - \xi_{t-1}\theta_{t-1}^*)$, increased by 17.19%, but 11.14% was due to the real devaluation that occurred between 1981 and 1982, $\theta_{t-1}^*(\xi_t - \xi_{t-1})$, leaving the residual $\xi_t(\theta_t^* - \theta_{t-1}^*)$ of 6.05% as the value of the increase in external debt deflated by inflation in the United States and real GDP growth in Mexico.

Observed debt-GDP ratio and with a fixed real exchange rate, 1980=100
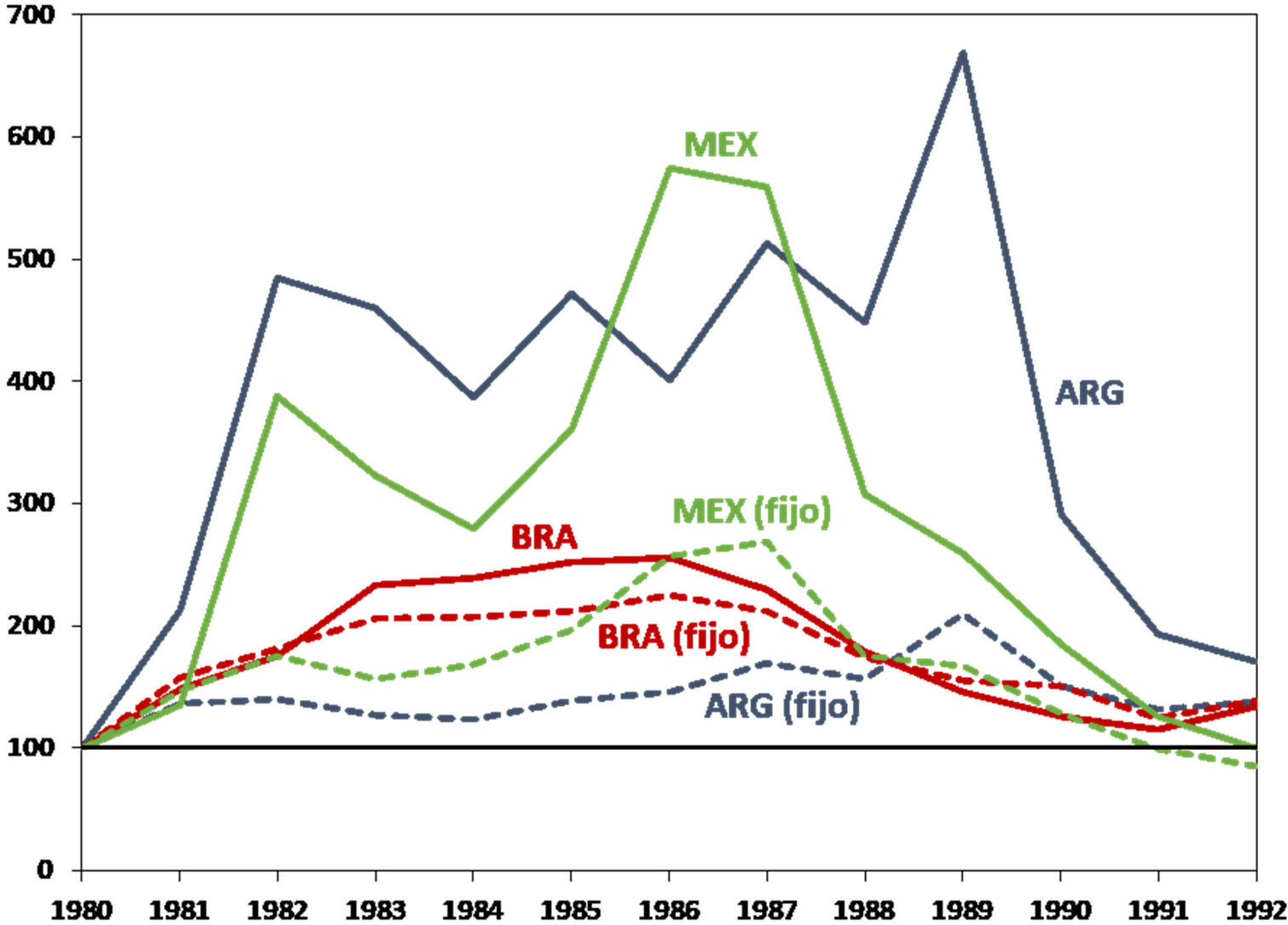
Conclusions

We identify public policy rules to avoid future crises that resemble those of the 1970s and 1980s:

• Solid fiscal policy,

• Gradual and prudent liberalization of financial markets and the current account,

• Low exposure of government debt to exchange rate movements,

• Careful monitoring and control of spending by independent government institutions.

"Default and Interest Rate Shocks: Renegotiation Matters"
by Victor Almeida, Carlos Esquivel, Timothy J. Kehoe, Juan Pablo Nicolini

We develop a model of sovereign default and renegotiation in which it is not the increased debt service caused by the Volker shock that caused Mexico to default in 1982. Rather it is the anticipation that higher interest rates would induce U.S. banks to offer better terms in any renegotiation of the debt with Mexico.