**UNIVERSIDAD DEL CEMA**
**Buenos Aires**
**Argentina**

Serie
# DOCUMENTOS DE TRABAJO

**Área: Economía e Historia**

# MONETARISMO CUM ESTATISMO: GOVERNMENT SPENDING AND THE LIMITS OF MONETARY STABILIZATION

**Emilio Ocampo**

**Agosto 2026**
**Nro.931**

**https://ucema.edu.ar/publicaciones/doc_trabajo.php**
UCEMA: Av. Córdoba 374, C1054AAP Buenos Aires, Argentina
ISSN 1668-4575 (impreso), ISSN 1668-4583 (en línea)
Editor: Jorge M. Streb; Coordinador del Departamento de Investigaciones: Maximiliano Ivickas

# *Monetarismo cum Estatismo*:
# Government spending and the limits of monetary stabilization

Emilio Ocampo*

## Abstract

This paper reconstructs and formalizes a theory developed by Cuban-Argentine economist Armando P. Ribas between the late 1970s and early 1980s and employs it to analyze the stabilization plan currently being implemented in Argentina. Ribas's distinctive contribution was not a new theory of the origins of inflation, but an analysis of the real and distributive effects of disinflation when monetary or exchange-rate restraint is not accompanied by a corresponding reduction in nominal government spending. Adapting Wicksell's natural-rate framework to a bifurcated economy with a large and relatively inefficient public sector that does not face the same market discipline as the private productive sector, Ribas argued that such a policy mix shifts the burden of adjustment onto the private sector. As government spending rises in real terms, the natural rate falls while the market real rate rises, widening the Wicksellian gap and generating what he called the "decapitalization effect." The analysis suggests that sustainable disinflation requires reducing the government's real claim on resources, not merely changing how it is financed. This bears directly on the debate over stabilization and reform and supports the view that, in Argentina, the two are inseparable.

Keywords: Inflation; Stabilization; Monetary Policy; Government Spending; Natural Rate of Interest; Decapitalization Effect; Real Exchange Rate; Argentina.

JEL Codes: E31, E43, E52, E58, E62, F41, G21, O54.

Version Updated 13 August 2026

* The viewpoints expressed here do not necessarily represent those of Universidad del CEMA (UCEMA). This paper builds on the author's earlier work on Armando P. Ribas's contribution to Argentine macroeconomic thought, in particular Ocampo (2018) and an unpublished Spanish manuscript by the author on the neo-Wicksellian foundations of Ribas's framework and draws throughout on the analytical framework developed by Ribas (1974, 1982, 1984, [1984] 2024). The author used artificial intelligence programs as a research assistant to translate and adapt material from the author's work, help draft and revise the English text, complete and formalize the algebraic derivations that express Ribas's verbal framework in Section 3, analyze data from the BCRA, INDEC, and other public sources, and generate the figures. All theoretical claims, empirical interpretations, editorial choices, and final revisions are the author's, as are any remaining errors.

**Resumen**

Este trabajo reconstruye y formaliza una teoría desarrollada por el economista cubano-argentino Armando P. Ribas entre fines de la década de 1970 y comienzos de la de 1980, y la utiliza para analizar el plan de estabilización que se está implementando actualmente en la Argentina. La contribución distintiva de Ribas no fue una nueva teoría sobre los orígenes de la inflación, sino un análisis de los efectos reales y distributivos de la desinflación cuando la restricción monetaria o cambiaria no está acompañada por una reducción correspondiente del gasto público nominal. Adaptando el marco de Knut Wickell de la tasa natural de interés a una economía bifurcada, con un sector público grande y relativamente ineficiente que no enfrenta la misma disciplina de mercado que el sector privado productivo, Ribas sostuvo que esa combinación de políticas desplaza el peso del ajuste hacia el sector privado. A medida que el gasto público aumenta en términos reales, la tasa natural cae mientras que la tasa real de mercado aumenta, ampliando la brecha wickselliana y generando lo que denominó el "efecto descapitalizador". El análisis sugiere que una desinflación sostenible exige reducir la absorción real de recursos por parte del Estado, no simplemente modificar la forma en que se financia. Esto incide directamente en el debate sobre estabilización y reforma y respalda la idea de que, en la Argentina, ambas son inseparables.

# *Monetarismo cum Estatismo*: Government spending and the limits of monetary stabilization

Emilio Ocampo

> *Economists continue to analyze economic behavior as if the concept of the welfare state had never come into being or spread.*
>
> Armando P. Ribas

## 1. Introduction

In a series of articles written between 1979 and 1983, Armando P. Ribas (1980, 1982a, 1982b, 1984) developed an original theoretical framework based on Wicksell's theory of the natural rate of interest to analyze the stabilization plans implemented in the late seventies in the Southern Cone. He was highly critical of the theory underlying these plans, which rested on the model Jacques Polak developed at the IMF in the late 1950s (Polak, 1957) and the monetary approach to the balance of payments (MABP). Having familiarized himself with Polak's model while working at the IMF, he considered it inapplicable to Argentina and argued that it led the authorities to adopt a policy mix he labeled *monetarismo cum estatismo* or monetarism with statism (MCE): tight money and expanding government spending. He claimed this policy could lower inflation temporarily but would ultimately produce lower output, financial fragility and renewed inflationary or external instability.

Ribas rejected the notion that inflation was neutral. Its essence, in his view, was the transfer of resources it generated from the private to the public sector. He argued that the key real distortion was not the fiscal deficit or monetary expansion per se but the growth of government spending; monetary, fiscal and exchange-rate policy determined the channel through which the government absorbed real resources from the private sector. A disinflation engineered through monetary or exchange-rate restraint alone therefore does not leave the government intact — it enlarges its share of the economy, raises the real cost of capital facing the private sector, and produces a deterioration of its balance sheet that he called the "decapitalization effect". This policy mix was self-defeating and could end up generating a banking and/or external crisis.

Why was a theory that so accurately predicted the demise of Argentina's December 1978 plan forgotten? Ribas published mainly in newspapers and in books addressed to businessmen and policymakers, and his one formal exposition appeared in a conference volume of limited circulation (Ribas, 1982b), in diagrams rather than equations. Second, his explanation was not

clear and systematic, and he never properly formalized a model. Third, Ribas's framework may have been perceived as being too idiosyncratic to Argentina and less applicable to other developing economies. Yet the decapitalization effect is a more general resource-allocation mechanism. A large and inefficient government, high inflation and shallow capital markets magnify it; an open capital account, fragile intermediation and foreign-currency or rollover exposure determine whether it ends abruptly in a banking or external crisis. Kalter and Ribas (1999) later applied the framework to the Mexican experience between 1991 and 1994, which ended with the Tequila crisis.

In Ocampo (2018) I reconstructed Ribas's theory and argued that it explained both the failure of the late-1970s plan and the shortcomings of the gradualist strategy of 2016–2018. This paper supplies the formalization he never wrote, reconstructs the comparative statics of the graphical model presented in his 1984 book, identifies where those graphs require assumptions the model does not supply, and applies the resulting framework to the 2024–26 stabilization program. The model has two sectors, first in a closed economy and then in an open one, in which the government's real absorption of resources is endogenous and a single observable parameter — the gap between the growth of nominal public spending and that of the nominal anchor— governs both the direction of change in the government's share of output and the real cost of capital facing the tradable sector. The sign of that gap is not sufficient on its own: as §3.7 shows, a gap closed through devaluation and one closed through spending have opposite implications.

The case for studying Ribas's theory goes beyond the history of economic ideas. The main elements of Polak's model and the MABP underlie modern open-economy macroeconomics and IMF programs are still evaluated against fiscal and reserve targets. Ribas argued that these theories ignored the big elephant in the room: an ever-expanding welfare state. Deficits mattered, but so did the level and growth of government spending, which in his view was the main driver of the Wicksellian gap by lowering the natural rate of interest and raising the real market rate. In countries with high ratios of government spending to GDP and underdeveloped financial markets, the differential between the rate of growth of nominal spending and the nominal monetary anchor would exacerbate the "decapitalization effect" which would eventually surface in banks' balance sheets in the form of expanding non-performing loans (NPL).

Section 2 reviews the intellectual origin and development of Ribas's framework. Section 3 formalizes the model he never wrote: the law of motion of the government's share of output, the decapitalization effect, and the capital-flow and banking dynamics that close it. Section 4 applies the framework to the stabilization plan initiated in December 2023, the first to combine

monetary restraint with a large reduction in the government's real absorption without a hard currency peg. Section 5 concludes.

## 2. Ribas's Neo-Wicksellian Framework

Ribas developed his theory mainly in long articles for *El Cronista Comercial*, an Argentine financial newspaper, several academic papers and two books (Ribas, 1974, 1980, 1982a, 1982b, 1984, [1984] 2024, and Kalter and Ribas, 1999). As mentioned, his exposition was not always clear and systematic, but the underlying framework was coherent and, as I argued in Ocampo (2018), remarkably original. Its foundation is Wicksell's theory of the natural rate of interest (1898, 1906).

Ribas deconstructed Wicksell's theory and then adapted it to the reality of Argentina. In Wicksell, inflation originates when the natural rate exceeds the loan rate, leading to excess aggregate investment that drives prices up. In the mixed inside-outside money case this differential sets off a cumulative rise in prices, which is endogenously closed by the drain on bank reserves that forces the bank to raise its loan rate. Ribas proposed a theory of the conditions under which that automatic correction fails and the differential instead produces a reallocation of resources. The original equilibrium is not restored automatically. Inflation therefore was not neutral in either the short or the long run: it could alter the structure of production.

*A two-sector model*

Ribas's modification of Wicksell bears an analytical resemblance to the approach taken earlier by Mises and Hayek. The Austrian theory disaggregated Wicksell's economy into different stages of production, allowing an interest-rate disequilibrium to have different effects across sectors.[1] Ribas drew the relevant dividing line elsewhere. In the Argentine economy he was analyzing, the crucial distinction was not between producers of capital goods and consumer goods but between a market-disciplined private sector and a large and inefficient public sector. In the open-economy version of his model, this distinction corresponded broadly to a private sector producing tradable goods and a public sector concentrated in non-tradable goods and services.[2]

[1] The Austrian tradition did something similar by breaking up Wicksell's one sector model into a multiple sector model based on the concept of roundaboutness, moving from the earliest stage producers of capital goods to producers of final consumption goods. The two-sector model is a special case in which there are producers of capital goods and producers of consumer goods. What is missing from the Austrian model is the State.
[2] Ribas also contemplated a three-sector model with a non-public non-tradable private sector.

Ribas added two other key assumptions. First, the public sector did not face the same hard profitability and bankruptcy constraints as the private sector and, in its role as a producer, did not follow the efficiency criteria that private firms needed to survive. Therefore, an increase in the ratio of government spending to GDP would reduce the average productivity of the economy and lower the natural rate of interest. [3] Second, in line with crowding-out theory, Ribas argued that growing government spending raised the real rate of interest.

Conventional theory, he concluded, was incomplete: it took the level of real spending as given *ex ante*, when in fact "the rate of growth of government spending determines the inflationary pressure, and the form of its financing, the transfer of real resources that the government obtains" (Ribas, 1982a).

In this simplified setting, fiscal policy determined the rate of growth in nominal spending and monetary policy determined the nominal anchor, i.e., the interest rate, the rate of monetary expansion (the nominal quantity of money) or the rate of devaluation. Ribas claimed that contrary to established Keynesian and Monetarist doctrines, fiscal and monetary policy were not independent. In fact, in this setting they were inseparable and jointly determined the rate of growth in real government spending, which in turn determined the productive capacity of the economy.

In such a bifurcated economy, an expansive fiscal policy combined with monetary restraint creates the configuration that is central to Ribas's argument: the real market rate rises above the natural rate. In Wicksell's one-sector economy this gap is contractionary and ultimately self-correcting. Ribas's innovation was to change the incidence of that contraction. The private sector reduces investment, output and employment because its financing cost exceeds the return on capital, while the public sector does not adjust symmetrically because it is not subject to the same profitability or bankruptcy constraint. The Wicksellian gap therefore contracts the private sector without restoring the original allocation of resources.

This leads to an apparent paradox: monetary restraint can lower inflation in the short run while worsening the underlying disequilibrium. If nominal government spending does not slow correspondingly, lower inflation raises government spending in real terms; $G/Y$ rises as the productive sector contracts. The increase in the government's share lowers the natural rate while its demand for finance raises the market real rate, widening the gap further. Ribas called the resulting deterioration of private-sector profitability and balance sheets the "decapitalization effect." The disinflation is therefore not evidence that equilibrium is being

[3] Ribas (1982b) and Ribas ([1984] 2024) draw this relation as non-monotone, with an interior maximum at low $\alpha$ and an upturn at very high values. In conversations with the author in 2017, Ribas regarded it as monotonically decreasing throughout, which is the form adopted here. He never tested it empirically.

restored; it is the temporary price manifestation of a transfer of resources from the market-disciplined productive sector to an inefficient sector that does not adjust. There is no automatic mechanism to bring the economy back into equilibrium.

In an article written in 1979 and later collected in Ribas (1980), he added two other elements to his theory. The first is the treatment of government spending as the autonomous force in a cost-inflation process, substituting for the union wage pressure of Hayek's standard account. The second is the endogeneity of money under that configuration: there was no point in blaming the central bank for the rate of monetary expansion when neither it nor the Minister of Economy could reduce public spending, a political decision that was in the hands of the military *Junta*.

Ribas did not claim that government spending mechanically determined a unique inflation rate. He explicitly distinguished the autonomous inflationary pressure generated by spending from the mechanism through which that pressure was financed or validated. In the absence of domestic credit accommodation, the adjustment could instead take the form of higher taxation, recession, or a contraction of private activity. In an open economy with capital mobility, however, monetary restraint could itself raise domestic interest rates and attract foreign capital, allowing external credit to substitute for domestic credit. Capital inflows could therefore finance domestic inflation while sustaining or even increasing reserves, making the stabilization program appear stronger precisely as its underlying disequilibrium worsened.

Ribas's own closed-economy comparative statics capture the same asymmetry. If money grows faster than nominal spending, inflation and nominal rates rise, government spending contracts in real terms and the real market rate falls. If nominal spending grows faster than money, inflation and nominal rates fall while real government spending and the real market rate rise. He argued that these effects are quantitatively larger the greater the government's share of the economy. In that sense, less inflation can temporarily imply a larger government in real terms rather than a restoration of equilibrium.

Auernheimer (1983) approached Ribas's argument from a narrower angle. His point of departure was El concepto de mercado es falaz, which he cited as the source of the hypothesis that nominal government spending could determine the behavior of a passive money supply. There is no indication in his paper that he was attempting to formalize Ribas's broader neo-Wicksellian framework. Instead, he isolated one mechanism from it—the endogeneity of real government spending and, under passive money, of monetary expansion—and embedded it in a one-sector Cagan-type model. Consequently, Auernheimer provided a formal treatment of an important part of Ribas's argument, but not of the two-sector asymmetry and Wicksellian decapitalization mechanism that were central to Ribas's theory. In his model, holding the growth rate of nominal government spending constant, a reduction in the share financed by

money creation initially lowers monetary growth, the deficit and inflation. Real government spending begins to rise immediately; as the adjustment proceeds, monetary growth, the deficit and inflation rise again. In the long run, inflation returns to the growth rate of nominal spending, while real government spending settles at a higher level, financed by higher conventional taxes.

That result depends on Auernheimer's assumption that the proportion of spending financed by money remains fixed after the initial change. He explicitly notes that, if this restriction is relaxed so that monetary growth and the deficit are not forced to rise again, the adjustment may instead take the form of increasing tax pressure. More importantly for present purposes, his model is one-sector. It formalizes the monetary feedback generated by a fixed growth path of nominal government spending, but not Ribas's distinctive mechanism: the asymmetric contraction of the market-disciplined private sector and the resulting "decapitalization effect."

Unlike Auernheimer's model, Ribas's argument does not require the government to finance a constant fraction of its spending through money creation. The composition of financing can change over time without altering the underlying resource-transfer mechanism. The public sector's soft budget constraint allows it to postpone adjustment, not to escape the economy's aggregate resource and financing constraints. Higher taxes transfer resources directly from the private sector, while bond finance can postpone monetary accommodation at the cost of a higher market interest rate and a rising debt burden. As the productive sector contracts, the resources available to sustain either form of finance become more constrained. Ribas did not formalize when those constraints bind; in the limiting case he described under financial repression, if spending is not reduced and tax resources or bond-market access are exhausted, monetary financing becomes the residual source of finance. At this point Ribas's argument converges to the unpleasant monetarist arithmetic of Sargent and Wallace (1981): monetary accommodation ultimately becomes subordinate to the government's financing requirement. Ribas's original contribution lies in the path leading to that outcome—the growth of government spending, the transfer of real resources, and the resulting decapitalization of the productive sector.

Ribas was also a pioneer in bringing the banking sector into the analysis. The system he had in mind was shallow, concentrated and inefficient, leaving banks heavily exposed to the same class of tradable-sector borrowers. Systemic inefficiency imposed a floor on disinflation through the intermediation margin and amplified the decapitalization effect: banks were slow to cut exposure to deteriorating firms because the relevant real rate was known only ex post, because fiscal signals misled them, and because lenders refinanced a weakening debtor rather than book the loss. Private balance-sheet deterioration therefore migrated to the banking system, planting the seeds of the crisis that ended these experiments. The banking crisis can in turn

create a second route to monetary expansion as happened in Argentina in the early 1980s. If private losses are absorbed by the state or the central bank, the decapitalization effect generates new fiscal and quasi-fiscal liabilities and can force monetary accommodation. The process can therefore end by enlarging the state's effective claim on resources still further.

Ribas ([1984] 2024) identified the rise in public-sector participation from roughly 30 percent of GDP in 1970–73 to about 40 percent thereafter as the underlying real change (pp. 115–116). How the resulting disequilibrium manifested itself depended on the financial regime. Before the 1977 financial reform, and during the capital controls in force for much of 1973–75, the channels through which it would later appear as capital inflows and high market real rates were largely blocked. Under direct controls, the pressure instead emerged through financial repression: negative real deposit rates reduced money demand, raised velocity and accelerated inflation (pp. 112–114).

After financial liberalization, the same underlying disequilibrium operated through a different set of prices and financing channels. In the open-economy version, the same resource transfer operates through an additional relative-price channel. Exchange-rate restraint disciplines the prices of tradable goods while government wages and other non-tradable prices continue to reflect nominal spending growth, producing real appreciation and further compressing tradable-sector profitability.

Ribas (1982b) simplified the model in eight diagrams. Nominal government spending and money are exogenous, with rates of growth $g$ and $\mu$; the government's share of output, the natural rate of interest, inflation, the nominal rate and the real market rate are all determined endogenously. In the open-economy version the rate of devaluation replaces the rate of monetary expansion as the control variable, and a real rate specific to producers of tradable goods is added. One diagram plots the natural rate against the government's share and slopes downward over the relevant range; another plots the real market rate against the same variable and slopes upward. The decapitalization effect is stated in balance-sheet terms: internal disequilibrium consists in the rise of the debt-to-capital ratio produced by a real rate above the natural rate, and firms borrow to offset the loss of profitability in a cumulative process that ends in bankruptcy. The parameter that governs the transfer is identified explicitly as the relation between the growth rate of public spending and the rate of monetary expansion in a closed economy, or the rate of devaluation in an open one.

Ribas (1982a, ch. III) had already introduced the debt-to-capital formulation and the decomposition of output into tradables, private non-tradables and the state before the demise of the December 1978 plan. His main argument here was that state enterprises cannot go bankrupt

by law, so the system operates asymmetrically. While credit continues to flow, decapitalization can proceed without the market exit that would restore the original allocation; when financing finally stops, adjustment occurs only after employment and productive efficiency have fallen.

The most compact statement of the theory available in English came at a seminar convened by the IMF in Chile in April 1983, in comments on a paper by John Bilson of the University of Chicago (Ribas, 1984). Its elements are those formalized in Section 3 below: Wicksell's definition of internal equilibrium, and parity between domestic and foreign interest rates as the definition of external equilibrium; public expenditure as the single greatest determinant of the domestic interest rate; a price level decomposed into marketable and nonmarketable goods, with the latter — including government services and wages — rising faster when the former face external competition; and the decapitalization effect stated in full, since the domestic rate must exceed average inflation and therefore stands well above the rate of increase of the prices of marketable goods, so that their producers fail, borrow abroad to exploit the differential, or borrow domestically to cover operating losses. On reserves he inverted the MABP explicitly: the reserve target is neither a function of domestic credit nor a constraint on its expansion, and once the current-account deficit appears no level of reserves can impart stability to the system. He also drew a distinction that bears directly on Section 4, separating two scenarios. In the first there is a budget deficit, domestic credit expands, and reserves hold up as long as the domestic interest rate exceeds the international one. In the second there is no budget deficit, domestic credit does not expand, and the interest-rate differential produces a capital inflow that finances domestic inflation. Argentina between 1977 and 1981 fits the first scenario, Chile between 1979 and 1982 the second.

Sixteen years later, in a vindication of sorts, Ribas's framework appeared as an IMF Working Paper coauthored with an IMF staff economist (Kalter and Ribas, 1999). The paper applied the framework to the Mexican situation between 1991 and 1994. Mexico had the two things IMF programs are written on — fiscal balance and strong reserves — and neither gave any warning of the Tequila crisis. It was the first application of Ribas's framework to a country other than Argentina. Sections 3 and 4 return to the case.

*The debate with Chicago: money matters, but it is not all that matters*

If the natural rate of interest falls as government grows, fiscal and monetary policy cease to be separable, and the standard dichotomy proposed by Keynesianism and monetarism disappears. Both traditions implicitly treat government spending as small relative to the economy and its real level as fixed ex ante. According to Ribas, neither assumption held in Argentina, where government spending was close to fifty percent of GDP and state-owned enterprises did not

face the same hard profitability and bankruptcy constraints as private firms. He concluded that under such a disequilibrium scenario the market "would not clear": the private sector would adjust while the public sector grew larger. "My proposition," Ribas wrote, "is that monetary policy and fiscal policy are complementary, and the more so the larger the share of public spending in GDP" (Ribas, 1982a, p. 30).

By labeling the policy mix "monetarismo cum estatismo" Ribas was levelling a critique at several related strands of monetarism that were dominant in academic and policy circles: not only the monetary approach to the balance of payments (MABP) developed by Polak at the IMF and Harry Johnson and Jacob Frenkel at the University of Chicago but also the version proposed by Milton Friedman and Arnold Harberger. The Chicago view was defended locally by a group of economists associated at the time with CEMA –among them Carlos Rodríguez, Roque Fernández, Guillermo Calvo, and Leonardo Auernheimer– who played a prominent role in the debate over the stabilization plan announced in December 1978.

Ribas's principal target was the MABP. His theory turned Polak's "financial programming" on its head: what matters is government spending, not the budget deficit. From the standpoint of inflation and productivity, a low level of spending with a deficit is preferable to a high level of spending fully financed with taxes. He stated the argument as a taxonomy over the modes of financing and rejected the second-best prescription on its own ground. Bond finance can bring inflation to zero, but it raises the market rate and enlarges the transfer; tax finance lowers inflation while enlarging it as well; only a fall in real spending reduces inflation and raises productivity at the same time. Any policy that lowers inflation by transferring resources from the productive to the unproductive sector is, in his words, self-defeating (Ribas, 1982a, pp. 256–258). The policy implication was therefore structural rather than merely nominal: stabilization required reducing the government's real claim on resources, not simply changing the way a given level of spending was financed.

Ribas also challenged the MABP account of the adjustment of the balance-of-payments, according to which an inconsistent expansion of domestic credit under a fixed exchange rate should eventually be reflected in a loss of reserves. If domestic interest rates rise above foreign rates, an open capital account can instead generate capital inflows that finance the disequilibrium and sustain, or even increase, reserves. In Ribas's view, reserve accumulation could therefore give a false signal of consistency and postpone rather than enforce adjustment. The underlying disequilibrium would become visible only when the inflows ceased.

With respect to Friedman, Ribas noted that in comparing the quantity theory of money with the Keynesian income-expenditure model, he had simplified the analysis by eliminating every equation that contained government expenditure. He accepted Friedman's dictum that "money

is all that matters where prices and nominal income are concerned", but claimed that it obscured the main issue. "What matters is government," he wrote, "and, what is more, it is almost all that matters; and the greater its participation in the economy, the more it matters, as is the case in our countries" (Ribas, 1984).[4]

Ribas also took aim at Harberger, who at a conference in Buenos Aires argued that inflation set in once the budget deficit exceeded 1 percent of GDP. He noted that "monetarists" treated inflation and efficiency as two separate and independent problems: the size of the government determines the degree of efficiency of the economy, while the budget deficit determines the rate of inflation, so that any increase in spending fully financed with taxes had zero inflationary effect. Ribas denied this was the case. He questioned the conventional theory of the inflation tax on its own terms: since real money balances shrink as inflation rises, a government that attempts to extract constant real revenue from the inflation tax needs an ever-increasing inflation rate — "if I am not mistaken, the theory of the inflation tax implies an explosive theory of inflation" (Ribas, 1982a).[5] He did not deny that a large deficit is a powerful engine of inflation; what he denied was a univocal relation between the deficit measured against GDP and the resulting rate of inflation (Ribas, 1982a, p. 253).

Ribas's position should therefore not be read as the claim that government spending mechanically determines inflation independently of the monetary regime. Its inflationary effect depends on how spending is financed and on the nominal anchor. Under passive money, nominal spending can ultimately determine monetary expansion and long-run inflation; under a crawling peg, spending growth primarily sustains non-tradable inflation, preventing aggregate inflation from converging fully to the rate of devaluation.

Ribas's second objection concerned the expenditure side of the inflation tax. Because current government spending is mostly wages, the state does not transfer to itself the whole of the monetary expansion: it bears part of the inflation it creates, and the transfer is smaller the faster prices adjust. The size of the inflation tax therefore cannot be known a priori, and the deficit does not determine it (Ribas, 1982a, pp. 254–255). This is the expenditure-side counterpart of the Olivera–Tanzi effect, and it is the earliest statement of what §3.4 derives: real government spending is not fixed ex ante.

[4] This was a mischaracterization of the position held by Friedman, who, coincidentally, in a Newsweek column contemporaneously argued that "excessive government spending" was "the chief culprit, in my opinion, in producing both inflation and slow economic growth" (Friedman, 1981).

[5] In the first of his two passive-money models, Auernheimer (1983), a Chicago-trained economist then associated with CEMA, formalized and qualified Ribas's conjecture that the conventional theory of the inflation tax implies an explosive theory of inflation. With a fixed real seigniorage requirement below its maximum, the model has two long-run inflation rates, the lower stable and the higher unstable; explosive dynamics arise only when expected inflation exceeds the unstable equilibrium or when the required seigniorage exceeds the maximum that can be collected.

The debate intensified in 1980 as inflation remained well above the declining rate of devaluation, the peso appreciated in real terms, and the financial system entered a banking crisis. Ribas engaged directly with economists at CEMA over the viability of the crawling peg regime ("tablita") and the causes of its eventual demise. Calvo and Fernández (1980) framed the issue in terms of the fiscal deficit compatible with the announced rate of devaluation. Ribas framed it differently: the relevant question was what level and growth of government spending the exchange-rate anchor could sustain. Fernández (2017) records that Ribas argued that the level of public spending was the determinant of the recurrent failure of Argentine stabilization plans and questioned the December 1978 plan precisely because it left that problem untouched.

Teijeiro (1982), another graduate of Chicago who at the time served as advisor to the Ministry of Economy, accepted Ribas's account of 1979–1980 in full —spending growing far faster than the crawling peg, non-tradable prices outrunning tradable ones, real appreciation, a widening current-account deficit, capital inflows financing it at rising interest rates, and the bankruptcy of tradable manufacturing. He objected to Ribas's theory on two grounds. The first was that government spending cannot by itself be the basis of a general theory of inflation, since monetary expansion is necessary and sufficient while spending expansion is neither. The second, and the one that matters here, was that the government's inability to control real spending is political rather than technical: there was no technical obstacle, he argued, to setting nominal spending to the exchange-rate rule (dollarizing the budget would suffice). The 2024–26 program is the first Argentine stabilization to implement what Teijeiro maintained was technically possible: constraining nominal government spending alongside the nominal anchor. Section 4 therefore reads the episode as a test of both hypotheses.

*Ribas's contribution and developments in mainstream macro*

Along a parallel track and with a different emphasis, Ribas explored themes that were being incorporated into modern macroeconomics: fiscal dominance (Sargent and Wallace, 1981), the fiscal theory of the price level (Leeper, 1991; Sims, 1994; Woodford, 1995; Cochrane, 2023), and the rehabilitation of the natural rate of interest as the centerpiece of monetary policy (Woodford, 2003).[6] What remains absent from this literature is Ribas's focus on the effect of government size on the natural rate and, through it, on the productive capacity that ultimately supports fiscal solvency; mainstream treatments are more concerned with deficits, debt and the intertemporal budget constraint. The mechanism need not disappear in economies with smaller

governments and developed financial markets; its quantitative force should be lower because changes in the government's share are smaller and the supply of capital is more elastic. In those settings the decapitalization effect may appear mainly as investment forgone and slower potential growth rather than as a banking or external crisis.

There is also a connection to the literature on exchange-rate-based stabilization (ERBS) that grew out of the same Southern Cone experiments. Rodríguez (1982) and Dornbusch (1982) showed that a preannounced crawl generates real appreciation, a widening external deficit and eventual collapse; Kiguel and Liviatan (1992) established the boom-recession sequence as an empirical regularity across programs; and Calvo and Végh (1999) traced it to the intertemporal substitution induced by a stabilization the public expects to be temporary. The outcomes these models predict —real appreciation, capital inflow, crisis— are the same Ribas predicted, and priority is not the issue here. What distinguishes his framework is the mechanism, and the difference is observable. In the ERBS literature the anchor does the work: government size plays no role, the expansion is a consumption boom driven by the anticipated temporariness of the peg, and the resource shift is intertemporal. In Ribas the anchor is only the instrument of a transfer whose source is the growth of nominal spending: there is no consumption boom in the mechanism, the resource shift is sectoral rather than intertemporal, and its signature is a wedge in the real cost of capital between tradables and the rest of the economy. That wedge shows up in the sectoral composition of bank asset quality rather than in the current account, which is why Section 4 relies on the corporate-specific delinquency series rather than on the aggregate.

## 3. A Formal Model of *Monetarismo cum Estatismo*

The formalization of Ribas's theory resolves an objection any reader schooled in Wicksell would raise: if government spending simultaneously raises the real market rate and lowers the natural rate, the Wicksellian cumulative process would predict deflation, not the persistent inflation Ribas actually predicted. The resolution requires disaggregating the economy into a tradable (private) and a non-tradable (government) sector, since it is precisely the government's exemption from the market-clearing mechanism — "*el concepto de mercado es falaz*" — that turns an interest-rate gap into a reallocation of resources from the private to the public sector rather than a reduction in the rate of inflation (Ribas, 1982a).

The model has three building blocks: a bifurcated economy in which only the tradable sector faces market discipline (§§3.1–3.2); two sectoral inflation rates whose weighted average defines observed inflation (§3.3); and a law of motion for the government's share of output, σ (§3.4). Section 3.5 uses these relations to reconstruct Ribas's own comparative statics and identify inconsistencies in the graphical exposition; §§3.6–3.7 formalize the decapitalization

effect and the capital-flow and banking dynamics that close it. Section 3.8 then separates a closed-economy dynamic extension, drawing on Auernheimer (1983), from Ribas's core open-economy mechanism.

### *3.1 Setup: A bifurcated economy*

Ribas adapted the Wicksellian framework to a small economy, relatively open to trade and capital flows, with a high level of government spending and government regulation operating under a crawling peg regime. At the time he wrote, the government's footprint extended well beyond expenditures on wages and transfers: numerous state enterprises supplied most non-tradable services (electricity, water, etc.) as well as some tradables (oil and steel), subject neither to market profitability criteria nor to a hard budget constraint. The government is still large in relation to GDP but the military-industrial complex no longer exists.

In Ribas's model the non-tradable sector is essentially the government and state-owned enterprises, while the tradable sector is mostly private — agriculture and manufacturing.[7] The economy is thus bifurcated into two sharply distinct sectors, one of very low or even negative productivity and the other of high productivity. In such a bifurcated economy, the automatic adjustment mechanisms operating in Wicksell's original mixed cash-credit model could no longer be assumed to restore equilibrium. Consequently, the economy could remain in disequilibrium for longer than the private sector can bear.

Consider a closed economy with output $Y = Y^T + G$ in real terms, where $Y^T$ is private tradable output and $G$ real government absorption, and let $\sigma = G/Y$. In Wicksell's mixed cash-credit economy the cumulative process is self-correcting because a divergence between the market and natural rates changes prices, the public's demand for currency, and bank reserves; the resulting reserve flows induce banks to move their lending rate back toward the natural rate. Ribas's bifurcated economy changes the incidence of that adjustment. When the market real rate $r$ exceeds the natural rate $r_n$, the private tradable sector contracts investment, output and employment, while $G$ does not, since it neither faces bankruptcy nor answers to a rate of return. Differentiating $\sigma$ with respect to time,

$$\hat{\sigma} = (1 - \sigma)\,(\hat{G} - \hat{Y}^T) \tag{1}$$

so $\sigma$ rises whenever $G$ contracts proportionally less than $Y^T$. The limiting case in which government spending is invariant to the rate gives $\hat{\sigma} = -(1 - \sigma)\,\hat{Y}^T > 0$, but the premise the

[7] As mentioned above, the government was also a producer of tradable goods such as steel and petroleum through state owned companies.

argument needs is only the asymmetry of the two interest elasticities, not the stronger claim that the elasticity of $G$ is zero.

The same asymmetry gives a simple derivation of Ribas's claim that government expansion raises the market real rate. Let the demand for loanable funds be the sum of private and government demand, while saving supplies funds to the market:

$$L^D = L^P(r) + L^G(g), \qquad L^s = S(r)$$

with $L^P_r < 0$, $S_r > 0$ and $L^G g > 0$. Market clearing, $L^D = L^S$, then implies:

$$\partial r/\partial g = L^G g / (S_r - L^P_r) > 0$$

An exogenous increase in nominal government spending growth therefore raises the market cost of funds; it does not initially raise the natural rate. The latter moves in the opposite direction only as the resource transfer toward G lowers the expected productive return on tradable capital. The soft budget constraint means that G is not disciplined by profitability or bankruptcy; it does not mean that the economy escapes its aggregate resource or financing constraint.

Two consequences follow. First, Wicksell's reserve mechanism is no longer sufficient to restore the original real allocation. The higher market rate contracts only the interest-sensitive part of resource demand, while the government can maintain its claim on resources through taxes, domestic borrowing, state-bank credit, foreign finance, or monetary accommodation. The burden of adjustment therefore falls disproportionately on the private tradable sector, and the interest-rate gap can persist. Ribas states this in his own terms: state enterprises can pay real rates above their profitability because they cannot go bankrupt by law, so the system operates asymmetrically and converges not to greater productive efficiency but to the opposite (Ribas, 1982a, pp. 257–259). Second, the rise in $\sigma$ lowers the natural rate further, widening the gap. Wicksell's cumulative process runs principally on the price level; Ribas's runs on the composition of output.

The sections that follow add the relative-price channel through which this reallocation operates in an open economy with a nominal anchor. The result does not depend on it: $\hat{\sigma} > 0$ arrives through quantities in a closed economy and through relative prices in an open one.

### *3.2 Internal and external equilibrium*

Following Wicksell, internal equilibrium requires that the domestic real rate, $r$, equal the natural rate, $r_n$, while external equilibrium requires that the domestic nominal rate, $i$, equal the foreign nominal interest rate, $i^*$, plus the expected rate of devaluation, $e$. In the crawling-peg benchmark, agents are assumed to expect the announced crawl to be maintained, so the

expected and announced rates of devaluation coincide. This is a rational-expectations/credibility assumption only with respect to the exchange-rate rule:

$$\text{Internal equilibrium:} \quad r = r_n = i - \pi^e$$

$$\text{External equilibrium:} \quad i = i^* + e$$

Combining the two we obtain:

$$r_n + \pi^e = i^* + e \tag{2}$$

Under a crawling peg where the authority sets the devaluation rate, money is passive and the money supply follows from reserve flows; unsterilized inflows expand the monetary base and domestic credit.

Both the real rate and the natural rate depend, with opposite sign, on the government's share of the economy, $\sigma$, proxied by the ratio of government spending ($G$) to GDP:

$$r_n = h(\sigma), \quad h' < 0$$

$$r = k(\sigma), \quad k' > 0$$

Throughout, $r_n$ is the natural rate relevant to productive tradable capital, not an economy-wide average and not the private sector's financing cost. The distinction matters for equation (7) below: an average that included the public sector's own return would make $r^T > r_n$ true by construction, since the premise of the bifurcation is precisely that the two sectors' returns differ. The content of $h' < 0$ is therefore a claim that a larger government lowers the expected productive return on tradable capital through the transfer of resources toward lower-productivity uses, distortionary taxation, and the compression of tradable margins associated with real appreciation. Crowding out and external financing conditions belong instead to the market cost of capital, $k(\sigma)$, whose positive slope is given an explicit loanable-funds interpretation above. Ribas himself motivated $h' < 0$ with an averaging argument: with public-sector productivity at zero and private-sector productivity at 0.10, a larger state mechanically lowers the productivity of the system (Ribas, 1982a, pp. 255–256). The formalization here does not use that arithmetic derivation, because doing so would make (7) an identity. Instead it retains the substantive proposition behind it: the state devotes the resources it appropriates to activities of lower productivity than the private sector would have chosen.

G includes non-financial public-sector spending and the deficit of state enterprises, but its theoretical interpretation is the public sector's effective claim on real resources rather than government production alone. Transfers are not themselves public production: they operate

through household demand, which is why total spending is an empirical proxy rather than an exact measure of direct state absorption. This distinction matters more today than in the late 1970s, when state enterprises produced a much larger share of output. Under full socialization ($\sigma = 1$), the natural rate — productivity — becomes negative, but at that point the nominal rate itself disappears, and the model ceases to be meaningful. According to Ribas, σ is not fixed ex ante; it is a variable endogenous to the model, depending on the relationship among $r_n$, $\pi^e$, and e — a claim he asserted without formal proof. Section 3.4 below supplies the missing derivation.

*3.3 Purchasing power parity and sectoral inflation*

Ribas questions the empirical validity of purchasing power parity for the non-tradable sector, especially when the government's share of the economy is high (between 40 and 50 percent, as was the case in Argentina in the 1970s and 2015–2016). He further assumes that the market-adjustment mechanisms implicit in Wicksell do not discipline the government and its enterprises, since they are not bound by efficiency criteria or a hard budget constraint — at least not over a horizon short enough to protect the private sector. PPP holds for the tradable (private) sector:

$$P^{T} = E \cdot P^{T*}$$

where E is the nominal exchange rate and $P^{T*}$ the international price of tradables. In this bifurcated economy there are two relevant inflation rates, one per sector:

$$\pi^{T} = \pi^{*} + e$$

$$\pi^{NT} = A\pi^{T} + Bg$$

The magnitude of $A$ depends on the pass-through, which Ribas took to be positive on contemporary evidence: writing in 1979, he observed that many non-tradable prices, rents among them, were denominated in dollars or indexed to the dollar (Ribas, 1980). It is assumed smaller than $B$, which depends positively on the share of current transfers and wages in consolidated government spending (G). That is, the change in the general price level is a function of the growth rate of government spending ($g$) and the devaluation rate ($e$). The overall inflation rate is a weighted average of $\pi^{T}$ and $\pi^{NT}$

$$\pi = \alpha\, \pi^{T} + (1 - \alpha)\, \pi^{NT}$$

The parameter $\alpha$ is, in principle, distinct from $\sigma$: it reflects the tradable-goods weight in the consumption basket, while $\sigma$ measures government spending's share of output. But in the bifurcated economy, where the non-tradable sector is essentially dominated by the government,

the two weights are linked: a larger $\sigma$ implies a larger weight of the non-tradable sector in the consumption basket —that is, a smaller $\alpha$.

For the benchmark case we identify $\alpha = 1 - \sigma$, so that the weight of $\pi^{NT}$ in $\pi$ is $\sigma$. This is a tractability assumption, not an accounting identity. More generally one can write $\alpha = 1 - \theta\sigma$, with $0 < \theta \leq 1$; $\theta < 1$ allows for private non-tradables and weakens, but does not reverse, the composition effect:

$$\pi = (1 - \sigma)\, \pi^{T} + \sigma\, \pi^{NT}$$

The economy is then bifurcated: tradable-goods inflation, $\pi^{T}$, converges to $e$, while non-tradable inflation converges to $g$, the growth rate of nominal government spending. Average inflation lies between the two:

$$\pi^{NT} > \pi > \pi^{T}$$

Ribas's central point is that in a bifurcated economy with a high $\sigma$, inflation is not neutral in a way not contemplated by conventional macroeconomic theory. Any policy configuration that seeks to reduce inflation without reducing government spending ends up transferring resources from the private sector to the public sector and by reducing the potential of GDP growth is self-defeating.

Under a crawling peg, the point is not that government spending prevents inflation from falling altogether. Inflation may decline, but if nominal spending growth remains above the rate of devaluation, non-tradable inflation falls more slowly than tradable inflation. Aggregate inflation therefore remains above the exchange-rate anchor, producing real appreciation and shifting the burden of disinflation toward the tradable sector.

### *3.4 The endogeneity of σ*

The endogeneity of $\sigma$ is central to Ribas's theory. Ribas asserts it without deriving it formally. It follows from the definition of real spending itself. Let $G^{N}$ denote nominal government spending and $P$ the aggregate price level, so real government spending is $G \equiv G^{N}/P$. Since $\sigma \equiv G/Y$, its growth rate is:

$$\hat{\sigma} = g - \pi - n \tag{3}$$

where $g$ is the growth rate of $G^{N}$, $\pi$ the inflation rate as defined above, and $n$ the trend growth rate of real output. Substituting the expression for $\pi$ yields the general law of motion for $\sigma$. In the limit where the tradable sector faces no foreign inflation and pass-through to non-tradable prices is complete ($\pi^{*} = 0$, A = 0, B = 1, so that $\pi^{NT} = g$), this reduces to the expression:

$$\hat{\sigma} = (1 - \sigma)\,(g - e) - n \tag{4}$$

This is the missing link in Ribas's formulation: it mathematically derives his claim that σ is not fixed ex ante but is an endogenous variable. Because $\hat{\sigma} \equiv \dot{\sigma}/\sigma$, equation (4) implies $\dot{\sigma} = \sigma[(1 - \sigma)(g - e) - n]$. The law of motion is therefore nonlinear (logistic). For $g - e > n$ it has an interior stable steady state:

$$\sigma_{ss} = 1 - n/(g - e) \tag{4′}$$

valid on (0,1) when $g - e > n$.

The expression is a property of the law of motion rather than a forecast of the government's share, and it should not be read as one: $\sigma_{ss}$ is highly sensitive to $n$ in the neighbourhood of $g - e = n$, and for much of the Argentine sample the gap lies outside the region in which an interior steady state exists at all. What (4′) delivers is a direction —the government's share rises with the spending-devaluation gap and falls with trend growth— and it is that direction, not the level, that carries the argument. It is the algebraic counterpart of Ribas's warning that "a restrictive monetary policy while public spending grows has a perverse effect": disinflation achieved by lowering the rate of devaluation while $g$ is unchanged widens $g - e$ and pushes $\sigma$ toward a higher $\sigma_{ss}$. Equation (4) is an open-economy allocation law under a maintained exchange-rate anchor. It should not be carried mechanically into a closed economy by replacing $e$ with an autonomous $\mu$; §3.8 explains why.

*3.5 Reconstructing Ribas's comparative statics*

Ribas ([1984] 2024) provides the most formal statement of the theory in Gráficos 3–6. The diagrams can be reconstructed from the preceding relations without imposing the exact linear curves he drew. In the closed economy, the graph implicitly requires a reduced-form relation $\Phi(\mu)$ for the inflation rate associated with a given monetary-growth rate, with $\Phi'(\mu) > 0$. This is the minimum relation needed to reproduce the drawing, not a monetary closure. Combining the Fisher relation with $r = k(\sigma)$ gives the family of a-loci:

$$i = k(\sigma) + \Phi(\mu), \qquad \partial i/\partial\sigma|a = k'(\sigma) > 0$$

The b-locus is the set of points at which the government's share is stationary. From $\hat{\sigma} = g - \pi - n = 0$, stationary σ requires $\pi = g - n$. Imposing internal equilibrium, $r = r_n = h(\sigma)$, therefore gives:

$$i = h(\sigma) + g - n, \qquad \partial i/\partial\sigma|b = h'(\sigma) < 0$$

Thus curve a slopes upward and curve b downward in $(\sigma, i)$ space. A higher $\mu$ shifts a upward; a higher $g$ shifts b upward. Curve c is different: it is simply the direct relation $r = k(\sigma)$ from Gráfico 2. Let $D(\sigma) \equiv k'(\sigma) - h'(\sigma) > 0$. The intersection of a and b then gives the comparative statics:

$$\partial\sigma/\partial\mu = -\Phi'/D < 0, \qquad \partial\sigma/\partial g = 1/D > 0$$

$$\partial i/\partial\mu = \Phi'[-h'/D] > 0, \qquad \partial i/\partial g = k'/D > 0$$

$$\partial r/\partial\mu = -k'\Phi'/D < 0, \qquad \partial r/\partial g = k'/D > 0$$

A monetary tightening therefore raises σ and the real market rate while lowering the nominal rate; a fiscal expansion raises $\sigma$, $i$ and $r$ together. Because $h' < 0$, the natural rate moves in the opposite direction to $\sigma$ in both cases. These are exactly the signs Ribas reports. In the open-economy version, $e$ replaces $\mu$ as the nominal anchor. With $\pi^T = \pi^* + e$, the same geometry applies; up to the constants $n$ and $\pi^*$, the intersection is governed by the spending-anchor gap $g - e$, the parameter that also appears in equation (4).

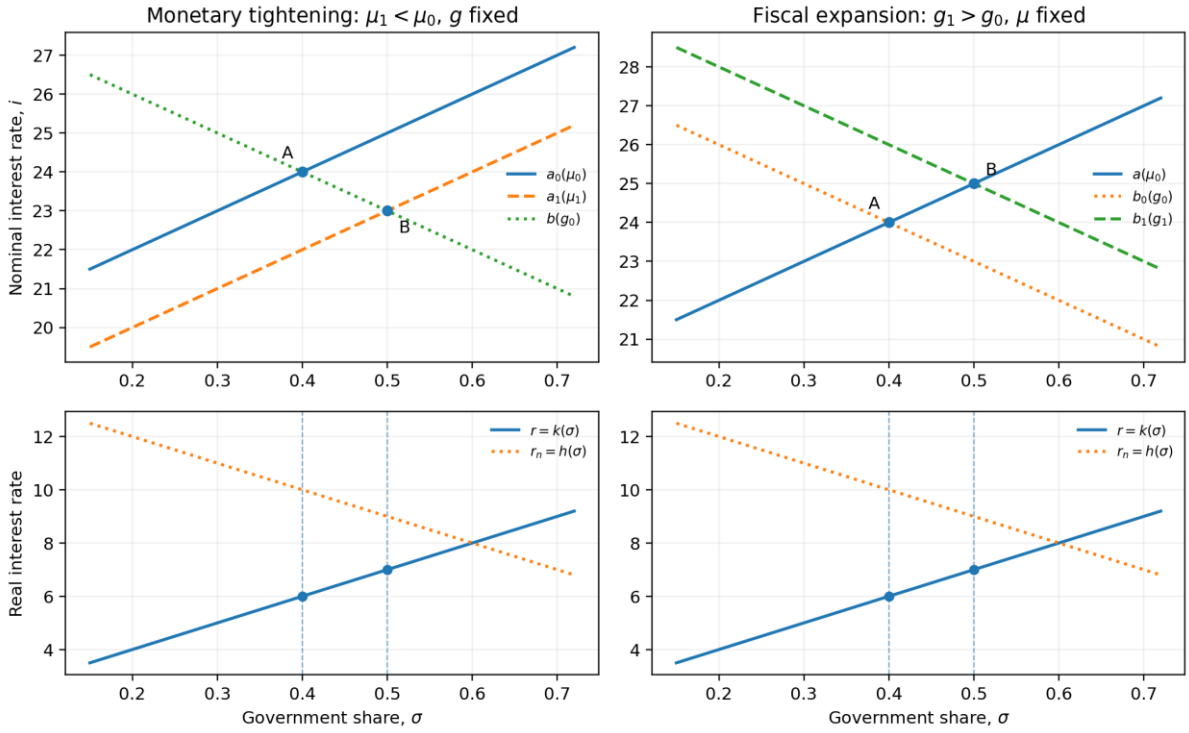



Figure 1. Reconstruction of Ribas's Gráficos 3 and 4. Left: a monetary tightening ($\mu_1 < \mu_0$) shifts the a-locus downward at fixed g, raising σ and r while lowering i. Right: faster nominal spending growth ($g_1 > g_0$) shifts the b-locus upward at fixed μ, raising σ, i and r. The functional forms and calibration are illustrative; only the slope restrictions and comparative-static signs are implied by Ribas.

The reconstruction also exposes two presentational inconsistencies. First, the text below Gráfico 4 says that curve a is the path along which the nominal interest rate does not vary. That cannot be literal: a is upward-sloping and Ribas immediately shifts it when $\mu$ changes. The

graph labels and the open-economy discussion make clear that a is the locus conditional on a given $\mu$, or on a given $e$ in Gráficos 5–6. Second, curve c is described correctly as a direct relation between $r$ and $\sigma$, but Ribas draws the real-rate scale downward below the horizontal axis, so the line appears to slope down on the page even though economically $dr/d\sigma > 0$. Neither issue affects the comparative-static signs. The substantive problem is the monetary closure: Ribas calls the fall in $i$ after a monetary tightening a long-run equilibrium result, but his 1984 apparatus contains no money-demand relation capable of establishing such equilibrium. Section 3.8 returns to this point.

### *3.6 The decapitalization effect*

According to Ribas, the most consequential reallocation of real resources generated by inflation in economies like Argentina's is between the tradable (private) and non-tradable (public) sectors, through two channels: the real exchange rate and the real interest rate. Nominal spending growth generates a real appreciation of the exchange rate that puts the tradable sector at an increasing disadvantage, while the concurrent rise in the real rate of interest produces a deterioration in its balance sheet (what Ribas called a "decapitalization effect"). Caught in this double bind, tradable-sector firms are left with rent-seeking as their main avenue of survival: lobbying for a devaluation or tariffs, securing tax privileges, or obtaining subsidized credit from state-owned banks.

Suppose that, under a crawling peg, nominal government spending grows faster than the devaluation rate ($g > e$). The resulting increase in the government's demand for domestic and foreign finance puts upward pressure on the domestic market rate. With finite capital-flow elasticity, i can therefore rise above the external-equilibrium benchmark $i^* + e$. The real rate facing the tradable sector, $r^{\mathrm{T}}$, is:

$$r^{\mathrm{T}} = i - \pi^{\mathrm{T}} = i - \pi^* - e \tag{5}$$

The arbitrage opportunity attracts capital flows that initially help build reserves and expand domestic credit. At the same time, these flows tend to push the domestic interest rate down — but not enough for the real rate facing the tradable sector, $r^T$, to equal the natural rate:

$$r^{\mathrm{T}} = i - \pi^{\mathrm{T}} > r_{\mathrm{n}} \tag{5′}$$

The relevant deflator for the tradable sector is $\pi^T$, the price index of its own goods — not $\pi^{NT}$, which would attribute to it the non-tradable sector's cost of living. By symmetry, the non-tradable sector finances the same nominal credit at $r^{NT} = i - \pi^{NT}$. The difference between the two is an accounting identity:

$$r^{\mathrm{T}} - r^{\mathrm{NT}} = \pi^{\mathrm{NT}} - \pi^{\mathrm{T}} \tag{6}$$

which, in the clean limiting case above ($\pi^T = e$, $\pi^{NT} = g$), reduces to:

$$r^{\mathrm{T}} - r^{\mathrm{NT}} = g - e \tag{6′}$$

Whenever nominal spending outpaces the exchange rate, the tradable sector faces — simply by deflating the same nominal credit with a more slowly growing price index — a strictly higher real rate than the government. This is an algebraic identity and should not be confused with the decapitalization effect itself. It measures the distributional wedge between the two sectors; what decapitalizes the tradable sector is a significant and persistent positive gap between its cost of capital and its natural rate. The identity records how much of the relative-price shift was absorbed by the tradable sector, not whether that shift left it unable to cover its return on capital. The name is reserved for $W^{\mathrm{T}}$ in what follows. Defining the gap relevant to the private sector as:

$$W^{\mathrm{T}} \equiv r^{\mathrm{T}} - r_{\mathrm{n}} = (i - \pi^{\mathrm{T}}) - h(\sigma) \tag{7}$$

Note that the equations for $\hat{\sigma}$ and $W^T$ share the same fundamental determinant, the gap ($g - e$): a single parameter simultaneously governs the growth of the government's share of the economy and the intensity of the tradable sector's decapitalization. This resolves the paradox raised at the outset: the interest-rate gap does exactly what Wicksell said, depressing the demand of whoever responds to it. But because the public sector does not adjust while the tradable (private) sector does, a transfer of real resources occurs between them instead of deflating the aggregate price level. This is Ribas's central insight.

The distinction between the mechanism and its amplification is important. Equations (6)–(7) do not require an open capital account or a weak banking system. Those features govern how a positive $W^{\mathrm{T}}$ is financed and how the disequilibrium terminates. A smaller government limits the movement in $\sigma$; deeper capital markets flatten the response of $r$ to government absorption; and low, stable inflation makes large and persistent sectoral inflation differentials less likely. The same decapitalization effect can therefore operate in more developed economies but show up mainly as investment forgone and slower potential growth. The banking and external crisis analyzed next is an amplified case, not a condition for the effect to exist.

The sustained demand for credit by the public sector puts a floor under domestic rates at levels that make the tradable private sector's medium-term sustainability untenable. This occurs whenever borrowing rates exceed the return on capital of private sector firms, deteriorating both their balance sheets and the quality of the banking system's loan portfolio: the private sector contracts at the government's expense — $\sigma$, the degree of socialization of the economy, rises — while facing increasingly positive real rates. According to Ribas, the banking system

initially misprices this credit risk and does not perceive the medium- and long-term implications of the rate divergence.

The capital inflow triggered by the rate differential *(i − i* − e)* expands domestic liquidity, which, if unsterilized, pressures private banks to originate assets; and since the non-tradable sector has access to cheap credit from state banks, private banks have little choice but to lend to their natural clients — tradable-sector firms. Given the high real rate these firms face, their debt becomes increasingly unpayable; delinquency rises, and the deteriorating portfolio eventually produces a banking crisis. This is a fairly accurate description of what happened in Argentina under the exchange-rate regime implemented in December 1978. The non-tradable sector, by contrast, continues financing itself at negative — or mildly positive — real rates.

### *3.7 Capital flows and banking fragility*

This mechanism — capital inflow, persistently high real interest rates for the tradable sector, gradual deterioration of banks' credit portfolios — admits a simple formalization. External equilibrium requires $i = i^* + e$; away from equilibrium, a positive differential induces capital inflows whose elasticity is finite. The inflow function can be written:

$$K = \kappa(i - i^* - e), \quad \kappa' > 0 \tag{8}$$

At the margin, $K$ finances the growth in the government's credit absorption — tempering, but not eliminating, the pressure on i generated by $\hat{\sigma} > 0$. $\kappa'$ is finite: capital inflow partially relieves the domestic rate but need not restore either external equilibrium or equality between $r^T$ and the natural rate. While $W^T$ remains positive, the balance sheets of tradable-sector firms deteriorate. Conceptually, the first step is rising leverage or investment forgone; equation (9) below is a reduced-form representation that collapses that intermediate balance-sheet state into subsequent bank delinquency.

Let $z$ denote the delinquency rate of the banking system; its law of motion can be written:

$$\dot{z} = \zeta \cdot \max(W^T, 0) - \delta z, \quad \zeta, \delta > 0 \tag{9}$$

where $\zeta$ measures how quickly delinquency accumulates while the gap persists, and $\delta$ the rate at which banks write off or restructure the portfolio.[8] This formalizes Ribas's own argument that the banking system initially fails to correctly evaluate credit risk and therefore does not

[8] Equation (8) presumes that the tradable sector's losses are financed. Where firms cannot or will not borrow at rates above their return, the adjustment runs on the quantity margin rather than the leverage margin: $K$ ceases to grow instead of D rising, $\zeta$ is correspondingly small, and the decapitalization shows up as investment forgone rather than as impaired credit. The crisis of (9) therefore requires not only that the transfer occur but that the banking system finance it, which is what an undeveloped and inefficient system does and a deep one without currency mismatch does not: the latter carries a high but stationary $z$.

perceive the long-term implication of this [$g - e$] differential. In other words, for a time $z$ grows without an interruption of capital flows, because $\kappa$ does not yet depend on $z$. The element that closes the model, and explains why the disequilibrium is not indefinitely sustainable, is that once a threshold $z_b$ is crossed, external creditors begin to price banking risk into their lending decisions:

$$\partial K/\partial z < 0 \quad for \quad z > z_b \tag{10}$$

That is, the same capital inflow that until then financed the gap diminishes once accumulated banking fragility crosses $z_b$ and, if the deterioration is sufficiently large, reverses even with no change in the underlying ($g - e$) differential. A reversal of K contracts domestic credit, pushes i up discretely and, under a managed exchange rate, eventually forces a jump in e that the monetary authority can no longer postpone. This is the vicious cycle Ribas described for 1980–81, and which Kalter and Ribas (1999) documented for Mexico between 1991 and 1994: the disequilibrium between $r^T$ and $r_n$ is not resolved gradually but accumulates on the banking system's balance sheet until it bursts.

Equations (9) and (10) make banking fragility endogenous to the sectoral wedge. That currency and banking crises arrive together is a documented regularity (Kaminsky and Reinhart 1999); what this formalization supplies is the source of the link. Where fragility originates in deposit guarantees, in self-fulfilling runs, or in the tension between internal and external convertibility under a currency board —the mechanism Della Paolera and Taylor (2003) model for Argentina— the banking system is the origin of the disturbance. Here it is the transmitter: $z$ accumulates because $r^T$ exceeds the tradable sector's natural rate, and the reversal in (10) follows from that accumulation, not from any property of the banks.

A corollary follows directly, and it completes the redefinition of external equilibrium introduced in Section 2: under this policy configuration the MABP yields the wrong prediction: an excess of domestic credit creation leads to a loss of international reserves. Here the opposite can occur during the accumulation phase: the interest-rate differential generated by $\hat{\sigma} > 0$ attracts capital flows, $K$, so reserves are maintained —or rise— while the excess absorption surfaces instead on the banking system's balance sheet as $z$. The initial observable manifestation of the monetary disequilibrium is therefore not necessarily a fall in reserves but the deterioration of banks' credit portfolios; reserve pressure arrives later, when rising z reduces capital inflows and eventually causes them to stop or reverse.

Ribas's critique of the Polak model was precisely that, by ignoring the effect of rising government spending on the real interest rate and the transfer of resources between the tradable and non-tradable sector it misidentified the nature of the disequilibrium (Ribas, 1982a). Mexico

between 1991 and 1994 provided a controlled experiment: nonperforming loans rose for three consecutive years before reserves signaled distress (Kalter and Ribas 1999).

To summarize, when nominal spending growth exceeds the devaluation rate (or the rate of monetary expansion under a floating rate regime) it creates a differential between the real and natural rates with opposite sign for the tradable and non-tradable sectors, pushing the economy into disequilibrium. The longer this disequilibrium persists, the more it depresses tradable private investment and GDP growth, and the more the non-tradable (public) sector's share of GDP rises at the expense of the tradable sector. Simultaneously, the contraction in activity erodes tax revenue, pressuring the fiscal balance, whose resulting deficit is financed in domestic and international credit markets. Average inflation rises as non-tradable inflation and the non-tradable share of GDP both increase, even as tradable inflation falls. The result is a zero-sum game: what the government gains, the private sector loses — and the more the private sector loses, the more the economy contracts.

The spending-anchor gap allows for a taxonomy of stabilization plans. Under a crawling peg the relevant object is $g - e$. Under a floating regime, $g - \mu$ is a useful empirical analogue, but §3.8 shows that it is not by itself a closed-economy steady-state condition unless the monetary closure is specified. Under the tablita (1978–80), exchange-rate restraint was never matched by a comparable cut in $g$, so $g > e$ persisted, $W^{\mathrm{T}}$ widened, and $z$ eventually crossed $z_{\mathrm{b}}$, forcing devaluation. Kalter and Ribas (1999) found the same pattern in Mexico in 1994 despite near fiscal balance. The Macri program (2016–19) is a subtler case, and one that exposes a limitation of the criterion. Measured against the exchange rate its gap was already negative —averaging −0.3 percent monthly in 2016–17, and −1.6 and −3.3 percent in the two sub-periods of 2018–19— and yet the program ended in a sudden stop in March–April 2018. Against the monetary aggregate, however, the gap was essentially nil (−0.0, −0.6 and −0.0 percent), so no equivalent compression operated under the floating rate. More fundamentally, the exchange-rate gap turned negative because $e$ rose rather than because $g$ fell: nominal spending grew at 2.2, 1.5 and 2.4 percent monthly while the peso depreciated at 2.5, 3.1 and 5.7 percent. As §3.4 warns, equation (4) does not distinguish the origin of the gap's closure, and a gap closed through devaluation raises $\pi^{\mathrm{T}} = \pi^{*} + e$ instead of lowering $\sigma$ through fiscal contraction; consolidated spending accordingly fell only from 47 to 44 percent of GDP across the whole of the Macri period. The 2024–26 program is the first in which the gap was compressed from the spending side rather than through the exchange rate.

Two conditions on the criterion follow and are worth stating plainly. The predictor is not the gap but the gap together with its source: the Macri case shows that the sign alone yields a false negative. And the crisis mechanism of equations (8) to (10) —not the decapitalization effect

itself— requires an open capital account, since it is capital inflow that finances the disequilibrium and its reversal that terminates it. Capital controls change the transmission rather than invalidate the framework: when $K$ is suppressed, the pressure must be absorbed through other channels, including lower private investment and credit, monetary financing, financial repression and the parallel exchange market. This distinction is relevant to Argentina before the 1977 financial reform, when the state's growing claim on resources coexisted with controlled interest rates and restrictions on capital movements. The periods 2012–15 and 2020–23 are therefore not clean tests of equations (8)–(10), but neither are they outside Ribas's broader resource-transfer mechanism. Whether the current program has closed $W^{T}$ economy-wide, or only for the segment of tradables whose export prices improved, is the key question taken up in Section 4.

*3.8 A dynamic extension: passive money and the closed-economy adjustment path*

Ribas's closed-economy Gráfico 3 treats $\mu$ as a policy variable and describes the fall in the nominal interest rate after a monetary tightening as a long-run equilibrium result. The graph, however, does not specify money demand. That omission matters because a stationary monetary equilibrium requires the path of real balances to be consistent with both inflation and money growth.

Auernheimer (1983) supplies a monetary closure for one passive-money version of the closed-economy problem, explicitly motivated by Ribas, but not for Ribas's two-sector decapitalization mechanism. With money demand decreasing in expected inflation and real balances obeying $\dot{m}/m = \mu - \pi$, a stationary equilibrium requires $\mu = \pi$. In the passive-money case $\mu$ is therefore not an independent instrument: it adjusts to the fiscal financing requirement, and long-run inflation is pinned by nominal spending growth. In the notation used here, $\pi ss = g - n$. There is consequently no independent long-run comparative static in $\mu$ of the kind drawn in Ribas's Gráfico 3.

If $\mu$ is instead set autonomously at a rate inconsistent with $g - n$, real balances cannot be stationary and the putative steady state disappears: one of the two policy rules must eventually give way. This does not overturn Ribas's central comparative-static result that monetary restraint with unchanged spending raises $\sigma$ and $r$; it means that his claim that $\underline{i}$ remains lower in a long-run closed-economy equilibrium is not established by his model. The open-economy crawling-peg case is different because money is passive by construction. Appendix B gives the monetary closure and the conditional adjustment path in detail.

## 4. Applying Ribas's framework to the current Stabilization Plan

Since most of the conditions established by Ribas are still valid for Argentina, his framework can be used to analyze the stabilization plan launched in December 2023 by President Javier Milei.

In terms of inflation, starting conditions were worse than in December 1978 or December 2015: the monthly rate reached 25.5 percent, and the central bank carried a stock of remunerated liabilities that subordinated monetary policy to quasi-fiscal dominance. There are also some important differences. Public participation in the economy, measured by total spending, is of comparable magnitude, but state-owned enterprises are far less important than they were in the late 1970s.[9] Also, at the time Ribas wrote, government spending at the national, provincial and municipal levels was controlled by the military *junta*. Since December 1983, this is no longer the case due to fiscal federalism. Currently, provincial and municipal spending account for almost half of total government spending. Therefore, even if the national government adjusts its spending, there is no guarantee that $G$ will come down.

Another important difference is that consumer loans (including credit cards and mortgages) were virtually nonexistent in the late 1970s whereas today they account for a slightly higher percentage of banks' overall portfolio than corporate loans. Therefore, the deterioration of banks' balance sheets has another channel besides the "decapitalization effect" which is not explicitly included in the model. A further difference is one of scale, and it is smaller than might be supposed. Domestic bank credit to the private sector stood at about 25 percent of GDP in 1980, at the peak of the expansion that followed the financial reform of 1977, against about 18 percent in 2025 — lower, but of the same order, and rising rapidly. The balance sheet through which the decapitalization effect operates is therefore somewhat thinner than the one Ribas had in view, so that a given $W^{\mathrm{T}}$ destroys less capital than in 1979–1980; but the difference is one of degree and does not remove the channel. It does bear on the international comparison in §4.4: impairment of 7.7 percent on a loan book worth some 18 percent of output is about 1.4 percent

[9] Consolidated spending by the national, provincial and municipal governments was 29.0 percent of GDP in 1980 against 41.6 in 2023 (MECON), but that series omits the state enterprises, which spent a further 11.4 points of GDP in 1980 and about 3 in 2023; including them gives 40.4 against 42.8. Neither figure counts the quasi-fiscal deficit of the central which on an accrual basis adds materially more to 2023, although much of that interest was liquefied by inflation and constitutes an extraction from depositors rather than an absorption of real resources. The state was therefore no smaller in 2023 than it was in 1980; what changed is what it does. Some nine points of GDP of administratively priced production have been replaced by transfers, which households spend at market prices. This bears on the identification $\alpha = 1 - \sigma$: Ribas conditioned the claim on state production: he wrote that the concept of the market was fallacious to the extent that state decisions on the production of energy, steel, oil, gas and petrochemicals, and its banking operations, were far from responding to a budget constraint. Those are the activities privatized in the 1990s, so the condition he stated holds much less today. Author's calculations from MECON and from estimates by Schenone (1987), Fernández (1984) and De Pablo (2005).

of GDP, far below what the same ratio represents in the deep banking systems that dominate the cross-country evidence.

A second qualification is that part of the burden now falls on investment forgone rather than on capital destroyed, and the model captures that only indirectly, through the effect of $\sigma$ on the growth of potential output.

### *4.1 Is Monetarismo cum Estatismo Present?*

The defining feature of MCE is a persistent positive differential in the rates of growth of nominal government spending and the nominal anchor.

Milei's stabilization plan inverted the sequence followed in previous Argentine stabilizations except for Convertibility. The fiscal adjustment came first and was substantial, front-loaded and concentrated on expenditure rather than revenue. Primary spending by the national government was cut by roughly 5 points of GDP in 2024 alone; the national public sector recorded a primary surplus of 1.8 percent of GDP in 2024 and around 1.4 percent in 2025, with financial surpluses in both years. Between January–May 2023 and the same months of 2026, national primary spending fell approximately 30 percent in real peso terms.[10] Monetary financing of the Treasury was eliminated, and the central bank's remunerated liabilities were reduced sharply. Disinflation followed: monthly inflation fell from 25.5 percent in December 2023 to 1.9 percent in June 2026.

Viewed through Ribas's framework, the defining question is whether the current stabilization plan exhibits the traits associated with MCE. Figure 2 compares the Milei and Macri programs by months since inauguration. The left panel plots $g - \pi$, the *ex post* growth of real national government primary spending. Under Milei it became sharply negative immediately and remained so through most of the first year. Under Macri, by contrast, real government spending initially fluctuated around a much flatter path; significant fiscal tightening came only after the 2018 sudden stop.

The right panel measures nominal spending growth against the relevant nominal anchor. The comparison cannot be made mechanically using the same variable throughout because the two administrations operated under different monetary regimes. For Macri, the benchmark is a 25 percent annual inflation rate (1.9 percent monthly equivalent) from December 2015 through May 2016, the informal objective mentioned during the transition, and the BCRA's *Relevamiento de Expectativas de Mercado* (REM) median expectation of inflation over the

[10] Author's calculations based on the Secretaría de Hacienda's monthly budget on a cash basis deflated by the INDEC consumer price index; cumulative January–May 2023 versus January–May 2026.

following twelve months from June 2016 onward. Under Milei, the relevant gap is $g - e$ while the crawling peg remained operative through April 2025 and $g - \mu$ thereafter, once the monetary aggregate became the relevant nominal constraint.[11]

The paths are markedly different. Under Milei, the spending-anchor gap was deeply negative at the outset: nominal spending was compressed faster than the anchor, so fiscal policy reinforced rather than resisted disinflation. Around month 15 the gap turned positive, indicating that nominal spending had begun to grow faster than the anchor. The authorities subsequently corrected the divergence, but the most recent observations show the gap widening again in the same direction. This does not erase the large cumulative reduction in real government spending achieved during the initial adjustment, but it identifies the variable that should be watched most closely going forward.

Macri's trajectory was different. The gradualist program initially allowed a significant inconsistency between nominal spending growth and the inflation target. Policy tightened after the 2018 sudden stop, substantially narrowing the gap. The large deterioration near the end of the administration belongs instead to the post-PASO phase of 2019, when expectations of regime change destabilized the nominal framework. Period averages therefore obscure rather than summarize the relevant history. The evidence does not support characterizing the Milei stabilization as MCE: its initial configuration was precisely the opposite. The qualification is dynamic, not historical. Ribas's criterion is a flow condition, and a sustained positive spending-anchor gap would gradually recreate the inconsistency that the initial fiscal adjustment removed.

### *4.2 Real Appreciation and the Tradable-Sector Interest-Rate Wedge*

A second implication of Ribas's framework concerns the market interest rate. The sharp initial reduction in national government spending should, other things equal, have reduced the market real rate while raising the natural rate, narrowing the Wicksellian gap from both sides. Figure 4 shows some evidence of this mechanism during 2024: the expected dollar cost of corporate peso borrowing declined sharply as the spending-anchor gap turned strongly negative. The relationship subsequently weakened, however. During 2025 both the expected real cost of consumer credit and, more episodically, the expected dollar cost of corporate credit remained high even when national government spending was growing more slowly than the nominal anchor.

Two qualifications are important. First, the relevant fiscal variable in Ribas's framework is the consolidated government claim on resources, not national government spending alone. As

[11] Milei has publicly stated that his plan has three anchors: fiscal, monetary and the exchange rate.

discussed below, provincial and municipal spending subsequently expanded, partly offsetting the federal adjustment. Second, observed market rates contain components not captured by Ribas's reduced-form $r=k(\sigma)$. Domestic peso interest rates not only reflect credit risk but also regime-change risk. The latter creates a variant of the classic "peso problem": a small probability of a discrete devaluation following a change in monetary regime can sustain high peso interest rates even when current fiscal policy is consistent with the anchor. The persistence of high adjusted rates may therefore be consistent with significant uncertainty about the durability of the monetary regime.

Against this background, several of Ribas's warning signs remain visible. The peso has appreciated substantially in real terms: by late 2025 the multilateral real exchange rate stood roughly 21 percent below the 2007-2024 average, and it appreciated a further 9 percent in the first half of 2026. Real interest rates in pesos have been high through recurrent episodes of financial stress, and the cost of capital in dollars remains punishing: even after compressing to around 400 basis points in July 2026 —its lowest level since April 2018— the sovereign spread implies dollar yields of above 8.5 percent for the National government.

Blue-chip corporates can borrow abroad at a lower rate than the government and at a lower rate than they can borrow at home; net inflows reached almost USD 30 billion between January 2024 and May 2026. This does not contradict the decapitalization mechanism. When $i$ exceeds $i^* + e$, foreign borrowing arbitrages the differential and can support reserve accumulation, but access is concentrated among large firms with the size, ratings and reputation required by international markets. The domestic interest-rate wedge therefore remains most relevant for smaller, labor-intensive and import-competing firms, while foreign borrowing can leave the firms that obtain it exposed to a currency mismatch if the peso later depreciates.

### *4.3 Is the Decapitalization Effect Visible?*

The latest inflation figures show that wholesale prices — a better proxy for tradable-goods inflation than the CPI — rose 1.1 percent in June 2026. With peso overdraft rates averaging 25.7 percent that same month, the real cost of peso credit facing a tradable-goods producer was approximately 12 percent. However, as Ribas pointed out, what matters for the tradable sector is the cost of financing in dollars. As can be seen in the top panel of Figure 3, which adjusts the monthly average peso interest rate on private-sector loans granted against promissory notes ("*documentos a sola firma*") by the devaluation rate, the twelve-month average real rate in dollars through June 2026 is +1.7 percent monthly — roughly 22 percent compounded annually — and the six-month average is +2.6 percent monthly, roughly 37 percent annually. The most recent three months show an average of only 0.2 percent, but this is explained by a 5.2 percent

depreciation of the peso in June which is unlikely to repeat itself (if it did, it would feed inflationary expectations and increase the devaluation premium). These are *ex post* rates, calculated using realized depreciation; they measure the financing burden actually borne by borrowers rather than the dollar return expected by lenders.

Placed in historical perspective, this is not a marginal tightening. Table 2 in the Appendix reports real lending rates, compounded to annual equivalents, across exchange-rate regimes since 2000. The first column for companies is a direct measurement of $r^T$ as defined in equation (5): the peso lending rate deflated by the devaluation of the official exchange rate —the rate at which exporters liquidate— and then by US consumer price inflation, the empirical counterpart of $\pi^*$ in $\pi^T = \pi^* + e$. It reached 14.1 percent under the crawling peg, essentially the 13.4 percent that prevailed during the last two years of Convertibility —the period Ribas identified as the prelude to the 2001 collapse— and 19.0 percent under the bands, well above it. Since $r_n$ is not directly observable, these levels do not by themselves establish that $W^T > 0$; what they establish is that $r^T$ has been held, for a third consecutive year, at or above the level that preceded the last collapse, and under a regime in which the exchange rate, unlike then, is not irrevocably fixed.

The second column makes equation (6) observable. Deflating the same nominal rate by domestic consumer prices rather than by tradable prices yields $r^{NT}$, and the difference between the two columns is the decapitalization wedge, $\pi^{NT} - \pi^T$. Under the crawling peg it reached 25.8 percentage points —the widest in the sample— with companies in the tradable sector paying 14.1 percent in dollars while the same nominal credit cost −11.7 percent when deflated by domestic prices. This is the mechanism of §3.6 operating at full force: not two policies but one nominal rate, split in two by the divergence between the exchange rate and domestic inflation. The wedge narrows sharply under the bands, to 4.8 points, as domestic inflation converges toward the rate of devaluation —the first sustained compression of the gap in the sample, and the clearest evidence that the current configuration differs from the tablita and from 2016–2018. It bears emphasis that these figures understate the wedge: the consumer price index is a weighted average of $\pi^T$ and $\pi^{NT}$, so it lies below true non-tradable inflation, and the true $r^{NT}$ is therefore lower and the true gap wider than reported here.

### *4.4 Any signs of banking fragility?*

Asset quality in banks' balance sheets is deteriorating fast. The non-performing loan ratio for corporate borrowers, published monthly by the BCRA, bottomed at 0.67 percent in October 2024[12] and has risen every month since, reaching 3.34 percent by April 2026 — a fivefold

[12] BCRA, Informe sobre Bancos, April 2026 edition, non-performing loan ratio by debtor type ("Empresas"); the October 2024 trough corresponds to the same series as published in the October 2024 edition.

increase in eighteen months, and a 256 percent rise in the twelve months to April 2026 alone, with no sign of leveling off (bottom panel of Figure 3). This pattern is consistent with equation (9): fragility accumulated steadily during the same window in which the observable cost of capital facing the tradable sector remained elevated. Since $r_n$ is unobservable, however, the data do not establish $W^T > 0$ directly.

This deterioration should be read against a structural change in the composition of bank credit itself. When Ribas developed the decapitalization mechanism for 1978–1980, consumer lending was a marginal share of the banking system (less than 10% of the total), and the corporate sector was by far its largest client. This is no longer true: household and corporate non-performing loans moved together as recently as 2019–2023, but have since decoupled sharply. From a common trough in October 2024 —0.69 percent for corporate borrowers, 2.49 percent for households— the corporate ratio rose fivefold to 3.48 percent by May 2026, still below its own 2020 peak of 8.1 percent; the household ratio rose to 12.80 percent, nearly four times the corporate level and about 2.5 times its own prior peak of 5.1 percent (July 2021). The deterioration is concentrated almost entirely in unsecured lending: personal loans reached 15.95 percent irregularity and credit cards 13.11 percent by May 2026 —both all-time highs in the series since 2010, more than double their previous peaks— while mortgage- and auto-secured household debt remained comparatively contained, at 1.6 and 7.7 percent respectively.[13]

The deterioration in the economy-wide series is therefore driven overwhelmingly by unsecured household lending —not by the tradable-sector credit channel in Ribas's model— and is largely independent of the $(g - e)$ gap. This does not weaken the mechanism for the segment it was built to explain: it means that aggregate banking-system asset quality is not a clean proxy for the tradable sector's decapitalization, which is why the corporate-specific series in the bottom panel of Figure 3 is the correct empirical counterpart to $W^T$. Household credit risk is a second, structurally new source of banking fragility missing in Ribas's original framework.

The BCRA's classification of bank credit to the entire non-financial private sector, available on a consistent basis since 1994, shows the share of debt in normal situation falling from a peak of 97.4 percent in October 2024 —the same month the corporate NPL ratio bottomed— to 89.4 percent in May 2026, its lowest level in twenty years and below the troughs of both the 2009 recession and the 2019–2021 crisis. The speed of the deterioration —eight percentage points in nineteen months— is unmatched in the series, and its composition shows the migration that

[13] BCRA, Informe sobre Bancos, Anexo Estadístico, mayo de 2026, sheet "Calidad de Cartera (por líneas)": non-performing loan ratio ("ratio de irregularidad"), monthly series since January 2010, broken out by segment (Empresas; Familias) and, within Familias, by credit line (personales, tarjetas de crédito, con garantía hipotecaria, con garantía prendaria). Author's calculations from the underlying monthly series, January 2019–May 2026; historical peaks computed over the pre–October 2024 sample.

equation (9) implies operating in real time. The deterioration began in the early-stage categories: debt classified under potential risk tripled between October 2024 and November 2025. It has since shifted to the high-insolvency-risk categories, which by May 2026 had reached 4.2 percent of the total, above their 2019–2021 peak of 3.5 percent. Only the terminal category remains contained: irrecoverable debt, at 0.9 percent, is still well below the 2.3 percent reached in 2020–2021: the migration described by equation (9) is well advanced in the intermediate categories but has not yet worked through to the terminal one.[14]

As of this writing (July 2026), neither the sovereign spread nor the currency band shows signs of stress. The absence of a crisis is consistent with $z$ remaining below $\underline{z}_b$, but provides no basis for estimating either the threshold itself or the economy's distance from it. Argentina's own history, however, offers a rough external calibration. The ratio of irrecoverable credit to total financing of the private sector, available monthly since 1996, crossed 7 percent in December 1999 and 10 percent in March 2001, roughly twenty-four and nine months respectively before the December 2001 collapse; it then peaked above 26 percent in 2004, though those post-crisis readings are endogenous to the crisis itself —the *pesificación* of February 2002 and the subsequent workout altered both numerator and denominator— and are a lagging record of the collapse rather than a leading indicator of it[15]. Read against that benchmark, the current level is low: 2.84 percent in May 2026, against a trough of 2.19 percent in October 2024 —the same month in which the non-performing loan series of the corporate and household NPL series bottomed. On this specific channel the distance from crisis conditions is significant and measurable.

International experience supplies an alternative calibration. Ari, Chen and Ratnovski (2019), assembled non-performing loan series for 88 banking crises in 78 countries since 1990 for which data exist, drawn from Laeven and Valencia (2018), find that peak NPLs exceeded 7

[14] Source: BCRA, Consolidated Balance Sheets of the Financial System, credit granted to the non-financial private sector and residents abroad, classification by debtor condition. Three caveats apply. First, the aggregate includes households, and part of the 2025–2026 deterioration reflects rising delinquency in consumer and payroll lending; sectoral incidence is therefore established with the corporate series in the bottom panel of Figure 3. Second, private credit expanded rapidly in 2024–2025 as crowding out receded, so rising delinquency ratios partly reflect the seasoning of new loan vintages; in the model these are not competing explanations, since credit expansion at rates above the tradable sector's natural rate is itself part of the mechanism. Third, the historical benchmarks are not strictly comparable: the 2020–2021 figures understate deterioration because the BCRA temporarily relaxed classification criteria during the pandemic, while the inflationary liquefaction of peso-denominated debt in 2023–2024 mechanically cleaned bank portfolios, raising the base from which the current deterioration is measured.

[15] Author's calculations from BCRA, Balances Consolidados del Sistema Financiero, Cuadro I-4 (Balance de Bancos), monthly series: credits classified as irrecoverable ("Créditos clasificados irrecuperables," series 1023 for all currencies and 1024 for domestic currency) over total credit to the private sector (series 936 and 937 respectively). Two comparability caveats apply. First, the denominators are not equivalent across regimes: under Convertibility peso-denominated credit represented only 36 to 42 percent of total private credit, against 77 percent in May 2026, so the peso-only series covered a minority —and a differently selected one— of the market in the earlier period, which is why the all-currency series is used for the historical calibration in the text. Second, the classification criteria are not constant: the BCRA temporarily relaxed them during the 2020–2021 pandemic, and the inflationary liquefaction of peso-denominated debt in 2023–2024 mechanically depressed the ratio, so the October 2024 trough understates the true starting point of the current deterioration.

percent of total loans in more than 80 percent of them, and that every crisis but one with a peak below that level belongs to the Global Financial Crisis. They adopt 7 percent as the threshold defining elevated NPLs precisely because no crisis in the sample peaks anywhere near it: the distribution is bimodal, which is what gives the threshold its content. Conditional on crossing it, peaks are high — 21.6 percent on average, 13.6 percent in advanced economies and 27.1 percent in emerging and developing ones — and in more than 30 percent of crises NPLs remain above 7 percent seven years after the crisis began.[16] Their risk factors bear directly on the present case: elevated NPLs are more likely where corporate leverage is high, and a pegged exchange rate together with rapid pre-crisis credit growth predicts a later peak and slower resolution. Both of the latter describe the configuration of the last two years.

Read against this international threshold the Argentine position changed in the first months of 2026. The irregularity ratio on credit to the non-financial private sector crossed 7 percent in March and stood at 7.70 percent in May 2026 against a trough of 1.5 percent in October 2024; on the total portfolio the ratio reached 7.3 percent, the highest reading of either series since 2005.[17] However, this international threshold was crossed while the sovereign spread was compressing to its lowest level since 2018 and reserves were rising — which is the configuration §3.6 predicts and the MABP does not.

The threshold should not be interpreted mechanically. What preceded the 2001 collapse was not the crossing of a particular level but a sustained, unreversed rise in $z$; the ratio had remained between 8 and 9 percent for years in the mid-1990s without a crisis. Equation (9) likewise makes the accumulation of fragility, rather than any numerical threshold, the model's testable content. The current ascent is rapid, but loan seasoning and the expansion of dollar credit can slow or dilute delinquency ratios. A sustained deceleration in the corporate series would therefore be more informative than comparison with an unobserved $z_b$.

The 2018 episode, by contrast, is a poor guide to $z_b$. Non-performing loans barely moved before the April 2018 sudden stop, indicating that the reversal was not driven by banking fragility in Ribas's sense; it is better read as a direct confidence crisis, closer to Calvo's (1998) rollover channel and to the regime-uncertainty mechanism discussed in §4.6. A low and moderately rising $z$ therefore offers some assurance against a 2001-style banking-driven reversal, but none

[16] As the authors of this study explain, NPL definitions differ across countries and over time, which limits cross country comparisons. More importantly, NPLs are a feature and an amplifier of crises rather than a trigger: they rise around and after the onset of distress, as asset quality deteriorates and credit tightens, and a level is not a mechanism. Elevated NPLs are associated with deeper and longer post-crisis recessions in their data — output six years on is some nine percent lower where NPLs were elevated — which is a statement about the cost of a crisis rather than about its timing. That is exactly the status assigned to $z$ here: the framework says to watch its accumulation, not to read a date off its level.

[17] Preliminary data for June 2026 suggests that the ratio has stabilized at this level. Further data is needed to reach a definitive conclusion.

whatever against a 2018-style currency crisis triggered by a shift in fiscal or political credibility, which by construction leaves no advance trace in bank balance sheets. Both channels remain live; only the first is the one $z$ tracks. What remains true in either case is the red flag Ribas identified: banks initially misprice credit risk and fail to perceive the long-term implications of the interest rate differentials.

Alternative explanations of the same deterioration locate it in institutions rather than in the wedge. Díaz-Alejandro (1985) attributed the Southern Cone crashes that followed financial liberalization to deposit guarantees, moral hazard and weak supervision. Della Paolera and Taylor (2003) locate the root in fiscal insolvency, as this paper does, but route the damage through the banks' willingness to absorb public paper and to be robbed —their "*gaucho* banking"— and their evidence is a cross-section: in 2001 the collapse in asset quality was concentrated in the Banco de la Provincia de Buenos Aires rather than the Banco de la Nación Argentina (both state owned), and tracked the price of government debt. Both explain the deterioration via an institutional-political channel.

The current episode provides a good test of both hypotheses, because the preconditions of the institutional factors are absent: the fiscal accounts are in surplus, no public debt has been forced onto bank balance sheets —in fact the stock of remunerated liabilities has been cut by two thirds— and there are neither capital levies nor provincial quasi-monies. Yet the share of credit classified in other than normal condition stands at its highest level since 2007. The evidence weighs against the institutional explanation more decisively than in favor of Ribas's.

### *4.5 The External Resource Constraint*

Despite the contraction of government spending since 2023, which contrasts with what happened in 1979-1980, economic activity tells a Ribasian story of a bifurcated economy: agriculture, energy and mining expand while manufacturing, trade and construction are stagnant; imports of consumer goods grow while imports of intermediate and capital goods decline (first five months of 2026 versus first five months of 2025).

Ribas used public spending denominated in dollars as a metric to measure the burden of government spending on the tradable sector.[18] In my view, a better metric is the ratio of public spending (measured in dollars at the official exchange rate) to exports. By this measure, the

[18] Cavallo (1984) measured the fiscal burden on the tradable sector in dollar terms but normalized it by GDP. This paper normalizes by exports instead: it is export capacity, not aggregate output, that bounds a small open economy's ability to service dollar-denominated claims, a point developed further in the paper's concluding section. GDP also includes non-tradable output that cannot itself be used to service foreign obligations, making exports the cleaner measure of the resource base against which the government's dollar absorption should be judged.

current program passes a test that no previous plan did, including Convertibility.[19] The ratio peaked at 403 percent (271 percent on a twelve-month moving-average basis) in December 2015 and stood at 183 percent in October 2023, on the eve of the election. By June 2026 it had fallen to 101 percent (twelve-month average), its lowest level since 2008 (Figure 5).[20] The problem is spending at the provincial and municipal level has not come down and accounts for another 100 percent of exports.

The ratio therefore belongs alongside $z$ as an indicator of external sustainability —a leading indicator of when the reversal in (10) becomes likely— and not alongside $\sigma$ as a determinant of the natural rate.[21] Read that way it complements the model without amending it, and its trajectory carries information that $\sigma$ alone does not: a government can reduce its share of output while its claim on the country's foreign-exchange earnings stays unchanged, and the converse is equally possible when exports expand for reasons unrelated to policy.

Nor is reserve accumulation, by itself, reassuring. In May 2026 gross reserves rose USD 3.7 billion to USD 48.2 billion, but only half of that increase was earned through the cash current account; the rest entered through the financial account —IMF disbursements, new dollar-denominated Treasury issuance in the local market and, earlier in the year, a USD 3 billion REPO with international banks.[22] The private counterpart of the central bank's purchases was equally telling: corporate borrowing abroad supplied dollars at one window —USD 2.2 billion in May, two thirds of it by the energy sector, which simultaneously recorded net direct-investment outflows— while households bought USD 2.7 billion of foreign currency at another. In terms of the model, reserves acquired against $K$ rise in tandem with $z$, not in opposition to it. This is the configuration Kalter and Ribas (1999) documented for Mexico, which reached 1994

[19] The ratio of primary spending to exports during 1993-2001 averaged 226% and reached its lowest level, 185%, in 2001, when Argentina faced a serious external crisis.

[20] The numerator is primary spending of the National Public Sector before *gastos figurativos* which avoids double counting; adding them raises the ratio's level (to roughly 130 percent in May 2026) without altering its trajectory. The only period with lower readings —a trough of 61 percent in 2003— reflects two external events rather than fiscal retrenchment: the January 2002 mega-devaluation, which collapsed the dollar value of public spending, and the onset of the commodity super-cycle, which inflated export values. The current decline, by contrast, rests on a structural expansion of exports. Between 2023 and the twelve months to May 2026, export values rose 42 percent with quantities up 41 percent (INDEC quantity index), so implied prices contributed virtually nothing; in 2003–2007, an 87 percent increase in values combined a 24 percent rise in quantities with a 51 percent rise in implied prices. The earlier lows were the gift of the commodity super-cycle; the current one is earned in volume.

[21] Author's calculations from IMF, World Economic Outlook (April 2026): general government expenditure converted to US dollars at market exchange rates, divided by exports of goods and services from World Bank World Development Indicators database. Averages for 2000–2025: Brazil 304 percent, Argentina 217, Colombia 185, Ecuador and Bolivia 122, Uruguay 115, Peru 87, Mexico 81 and Chile 73. The ratio combines the size of government with the degree of trade openness, since G/X = (G/Y)/(X/Y); Argentina and Brazil are the two least open economies in the group, with exports at about 15 and 14 percent of GDP respectively.

[22] BCRA, Evolución del Mercado de Cambios y Balance Cambiario, mayo de 2026. The BCRA attributes the USD 3,678 million increase to its market purchases (USD 2,601 million), the IMF capital disbursement (USD 1,043 million), new Treasury dollar issuance in the local market (USD 1,040 million), higher dollar bank reserves at the BCRA (USD 576 million) and Treasury purchases (USD 150 million), partially offset by interest and charges paid to the IMF (USD 808 million) and net cancellations of principal and interest to other multilateral organizations (USD 953 million). The cash current account surplus was USD 1,877 million.

with balanced fiscal accounts and a strong reserve position that evaporated when capital flows reversed. According to standard textbook analysis, the current accumulation of reserves signals strength. According to Ribas, it depends on what happens to $z$.

The ratio's decline since 2023 reflects a reduction in real government spending and strong growth in exports from energy, mining and agriculture —an expansion that owes as much to supply-side developments (Vaca Muerta, the mining pipeline, and the recovery of agriculture from the 2023 drought) as to the stabilization itself. Unlike in 2003–2007, the current expansion reflects a structural change in the tradable sector rather than a transitory price effect. This is the strongest pillar of the current plan. However, it does not completely eliminate the concerns raised by the appreciation of the real exchange rate.[23]

As mentioned earlier, the public sector is bifurcated in a way not captured by Ribas's model: fiscal federalism. The national government adjusted spending; the provincial and municipal governments, which together accounted for 49 percent of consolidated public spending in 2024 —up from 44 percent in 2020–2023 and 34 percent in 1980[24]— are under no comparable constraint and have not adjusted in tandem; the consolidated $(g - e)$ that determines $W^T$ in the model can remain high.

The IMF's most recent Article IV consultation confirms the provincial primary balance flipped from a surplus of 0.4 percent of GDP in 2024 to a deficit of about 0.5 percent in 2025, and provincial primary spending rose from 14.8 to 16.1 percent of GDP over the same period — more than offsetting a 0.6-point reduction at the federal level, so that general-government primary spending rose, not fell, in 2025[25]. Fund staff attribute the shift to an expansion of real spending amid easing borrowing constraints, and note that no binding subnational spending or borrowing limits currently exist: adherence to the Fiscal Responsibility Law has been voluntary, the council charged with monitoring compliance lacks operational independence, and coordination with the provinces takes place through non-binding annual Fiscal Pacts[26]. The risk

[23] BCRA, Índice de Tipo de Cambio Real Multilateral (ITCRM, Dec-17-2015 = 100). The index fell from 162.2 at the December 2023 devaluation to 85.6 in July 2026, a real appreciation of 47 percent. The current level is comparable to the 2017 average (88.0), the year preceding the currency crisis that ended Macri's gradualist experiment and to the levels of 2000 and 2001.

[24] Author's calculations from the Secretaría de Política Económica's Gasto Público Consolidado series (Nación, Provincias y Municipios, percent of GDP by level of government); provincial-plus-municipal share of the three-level total for 1980, the 2020–2023 average, and 2024.

[25] IMF, Argentina: 2026 Article IV Consultation, Second Review Under the Extended Arrangement Under the Extended Fund Facility..., Country Report No. 26/105 (May 2026), Table 4 ("General Government Operations") and ¶7. Federal and provincial primary expenditure computed by the author as the sum of each level's wage, goods-and-services, pensions, transfers-to-private-sector, capital, and other spending categories reported in Table 4 for 2024 and 2025.

[26] IMF Country Report No. 26/105, ¶22 and Box 6 ("Strengthening Argentina's Fiscal Framework"). The Federal Council for Fiscal Responsibility (CFRF), created in 2017 to monitor compliance with the Fiscal Responsibility Law, consists of representatives of the Ministry of Economy and the provinces and lacks operational independence to assess compliance or impose sanctions; federal-provincial coordination instead takes place through annual, non-binding Fiscal Pacts.

is not hypothetical: Della Paolera and Taylor (2003) document the provincial channel operating in 2001, when the Banco de la Provincia de Buenos Aires transmitted provincial fiscal stress into the banking system. The ratio of consolidated government spending to exports, although lower by historical standards, remains relatively high at about 200 percent, and its sustainability depends on a constraint —binding subnational fiscal rules— that currently does not exist.

*4.6 Stabilization, Reform and Regime-Change Risk*

Ribas's policy conclusion is stronger than the requirement that monetary and fiscal policy be coordinated. In his framework, sustainable stabilization requires reducing the state's claim on real resources. Financing a given level of spending with taxes or debt can eliminate monetary finance without eliminating the Wicksellian distortion: government absorption still lowers $r_n$ and raises $r$. Ribas states the implication explicitly: lowering the market real rate requires a reduction in government spending, not an increase in taxes (Ribas [1984] 2024, p. 114). Expenditure reduction and productivity-enhancing reform therefore narrow $W = r - r_n$ from both sides — lower government absorption reduces $r$, while reallocating resources toward more productive private uses raises $r_n$. Stabilization and reform are complements, not separable tasks.

Ribas's framework treats the tradable sector as homogeneous: it earns world prices and either covers its cost of capital or does not. However, today as in the 1970s, the tradable sector is bifurcated. One segment —agriculture, energy, mining— is internationally competitive and integrated with world markets; the other —manufacturing— is mostly a legacy of the corporatist-protectionist system installed in 1945 and survives thanks to tariff and non-tariff protections and the occasional devaluation of the peso. For this segment, currency devaluation is the oil that keeps a rusty engine running. Because it still represents a large share of GDP and of employment, it provides the base for a strong, politically organized and regionally concentrated devaluation lobby.

This gives Ribas a direct connection to the distinction between stabilization and reform. The same distinction was central to Keynes's recommendations to FDR at the end of 1933. Keynes warned that the government was "engaged on a double task, recovery and reform," and that reform, however necessary, "will upset the confidence of the business world and weaken its existing motives to action before you have had time to put other motives in their place." He counseled focusing on recovery first and then proceeding with reform (see Edwards 2018 for a deconstruction of Keynes' advice). Ribas's framework points to a different sequencing problem: when excessive government absorption is part of the inflationary disequilibrium, postponing reform undermines stabilization itself.

Given the short electoral calendar, in Argentina prioritizing stabilization over reform is not an option. Any effort to stabilize the economy unaccompanied by a reform of the corporatist-protectionist system will be defeated by the devaluation lobby before it can succeed. Because in Argentina the nominal exchange rate is a thermometer of political instability its dynamics can become self-reinforcing. In terms of the model developed in Section 3, the "legacy" tradable sector raises the political cost of holding $e$ fixed so that the devaluation the monetary authority "can no longer postpone" may arrive for political reasons well before the balance-sheet arithmetic of Section 3.7 requires it.

At the same time, systemic reform forces a reallocation of productive resources that imposes costs in terms of growth and employment. To the extent that these costs are borne by a large percentage of the electorate they are bound to generate political uncertainty. This in turn will be reflected in higher nominal exchange rate and in domestic interest rates which will reinforce the dynamics described in the previous paragraph. The electoral calendar is too short –no more than 18 months before campaigning starts again– for the fruits of systemic reform to be broadly felt, particularly with exchange rate uncertainty.

The expectation that reforms will be reversed if the opposition wins the election can trigger a self-fulfilling prophecy: nominal exchange rate volatility contributes to expectations of regime change. Based on the experience of 2019, Ocampo and Cachanosky (2025) estimate that a) the long-run equilibrium real exchange rate under a populist regime is about 100 percent higher than under a non-populist; b) the nominal exchange rate shows an elasticity close to unity with respect to a change in expectations: a one percentage point increase in the probability of regime change generates roughly a one percentage point increase in the nominal exchange rate.

Weak growth in labor-intensive sectors concentrated in high density electoral districts and stagnant employment may strengthen the opposition ahead of October 2027. Unfavorable polls may increase the perceived probability of a regime reversal, that perception would feed currency instability, triggering a similar self-reinforcing loop. In other words, the political sustainability of the program requires a growth rate of GDP that may not be attainable under the current currency regime within the time constraints imposed by the electoral calendar. Absent a credible removal of foreign exchange risk, a stabilization with reform in a bifurcated economy must generate economic growth sufficiently fast to neutralize politically the devaluation lobby.[27]

[27] There is a way out of this trap that Ribas didn't consider or advocate: official dollarization. In Ribas's model it would imply $e = 0$, so the condition for a non-increasing government share becomes $g \leq n/(1 - \sigma)$. Fiscal discipline is made explicit and permanent; what dollarization removes is the devaluation premium in $r^T$ embedded in domestic interest rates through which regime uncertainty feeds the "decapitalization effect". Convertibility proved that if currency uncertainty is eliminated, the economy grows faster making stabilization and reform politically viable.

## 5. Conclusions

Ribas adapted Wicksell's theory to the reality of Argentina in the 1970s and derived a distinctive implication: inflation was not neutral, but neither was disinflation. When monetary or exchange-rate restraint was imposed without a corresponding adjustment in government spending, the burden of stabilization shifted disproportionately onto the private productive sector. His framework also identifies the conditions under which that reallocation culminates in a banking and external crisis. The proposition that inflation converges to the growth rate of nominal spending holds only with passive money. Taken to its limit, Ribas's framework generates an endogenous form of fiscal dominance: the cumulative monetary process can culminate in a banking and external crisis that forces the state to absorb private-sector losses, making monetary accommodation ultimately subordinate to the resulting fiscal and quasi-fiscal liabilities. In this sense, it reaches the unpleasant monetarist arithmetic of Sargent and Wallace (1981), but through a different causal route. Argentina's 1980–82 financial crisis provides a historical illustration of this mechanism: as private financial fragility culminated in widespread failures, the Central Bank absorbed a substantial part of the resulting losses and sowed the seeds of hyperinflation (Fernández, 1982; Piekarz, 1987; Fry, 1992).

Ribas's central mechanism is more general than the cases for which he developed it. The decapitalization effect requires neither an open capital account nor an undeveloped banking system. Its quantitative importance depends on the size and efficiency of government, the relative size of the tradable sector, the persistence of the spending-anchor gap and the elasticity of the supply of capital. A large and unconstrained state, high and uneven inflation, a small tradable sector and shallow capital markets magnify the wedge. With smaller governments, low inflation and deep capital markets the same mechanism should be weaker and may appear mainly as lower investment and potential growth rather than balance-sheet destruction. Additional conditions are required for the transfer to culminate in an external and/or banking crisis rather than in slow decapitalization: (i) an open capital account, since capital inflow finances the disequilibrium and its reversal terminates it; (ii) the inability to borrow long in domestic currency, leaving debt exposed to currency or rollover risk; (iii) a nominal anchor the authority defends rather than accommodates, so the inconsistency cannot be absorbed indefinitely; and (iv) a relatively inefficient and undeveloped banking system, since poor credit analysis accelerates the deterioration of asset quality and poor diversification increases systemic fragility.

Ribas (1999) warned against any regime that fixed the exchange rate such as the Convertibility plan because the growth in public spending would lead to a deterioration of the real exchange rate. However, the argument is not entirely applicable to official dollarization. In Ocampo (2023) I explore in more detail the political economy implications of such regime based on the history of Argentina.

Three propositions follow from Ribas's framework that are missing from mainstream analyses: 1) fiscal balance is neither necessary nor sufficient for a sustainable stabilization, since what governs $\sigma_{ss}$ is the gap between the growth of nominal spending and that of the nominal anchor, not the deficit; 2) in a bifurcated economy the nominal interest rate has two real rates as counterparts, and the wedge between them can destroy the capital stock of the tradable sector and create problems in the banking sector; and 3) monetary disequilibrium shows up first in the deterioration of banks' loan portfolios rather than in a loss of reserves, so reserve accumulation financed by capital inflows is a symptom of the disequilibrium and not evidence against it.

The model has limitations. It does not supply a complete dynamic account of how an economy moves from moderate to high inflation; Ribas's formal apparatus begins analytically closer to the problem of stabilizing high inflation than to explaining its initial acceleration. Also, the convergence result has no counterpart under an autonomous monetary rule (§3.8); $\sigma_{ss}$ is a property of the law of motion and not a usable prediction of the level of government participation in the economy (§3.4); $z_b$ has no analytical content, so the model gives direction but not timing (§4.4); equation (4) does not distinguish how the gap closes, so the sign of the gap is not by itself the criterion (§3.7); households lie outside the model (§4.3); and $g$, the model's policy variable, is in part statutorily indexed to lagged inflation, so it is not the exogenous instrument the framework assumes (§4.1). Because $r_n$ is unobservable, $W^T > 0$ is not directly measurable.

Ribas's theory has broader applicability than the Argentine, Chilean, and Mexican crisis episodes for which it was originally developed and later applied. Those episodes combined the decapitalization mechanism with the conditions that amplified it into an acute crisis. Brazil, which has had the highest ratio of government spending to GDP in Latin America over 2000–2025, illustrates a partial operation of the framework: a large public sector can generate real-resource effects while deep domestic-currency capital markets remove the rollover trigger.[28] How the decapitalization effect manifests itself under these attenuated conditions is a question for further research.

With respect to the stabilization plan launched in Argentina in December 2023, MCE was absent at inception and remained so through most of the initial stabilization phase: fiscal contraction preceded and reinforced the nominal anchor. The spending-anchor gap turned positive around month 15, was subsequently corrected, and has widened again in recent months. Because the gap is the variable that moves first in Ribas's framework, a sustained positive reading would precede renewed real appreciation, a wider sectoral interest-rate wedge and

[28] In 2025 general government expenditure was 47.4 percent of GDP in Brazil, and over 2000–2025 it averaged 42.5 percent, in both cases the highest in Latin America (IMF, World Economic Outlook).

further deterioration in bank asset quality. In Ribas's terms, however, the durability of the program depends not merely on preserving fiscal balance but on continuing the reform process that reduces the consolidated state's real claim on resources and raises private-sector productivity. The remaining risks are whether the labor-intensive tradable segment can expand output and employment at the prevailing real exchange rate, tax burden and cost of capital; whether corporate asset quality stabilizes; and whether provincial governments adjust their spending. The variables to watch are therefore the spending-anchor gap, the interest differential, the corporate NPL ratio and public spending in dollars relative to exports.

## Appendix A: Tables and Selected Empirical Figures

Table 1. Monetary, fiscal and exchange-rate aggregates by administration and exchange-rate regime, monthly rates of change in percent, period averages.

| Period | President and regime | i−e | $\mu$ | g | e | $\pi$ | $\pi^*$ | gUSD | x | g−e | g−$\mu$ | Gn/Y | Gc/Y | G/X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan 08–Nov 11 | Kirchner, hybrid | 0.6 | 1.6 | 2.4 | 0.6 | 1.7 | 0.2 | 1.8 | 0.8 | 1.8 | 0.8 | 21 | 38 | 112 |
| Jan 12–Nov 15 | Kirchner, hybrid, controls | 0.1 | 2.1 | 2.5 | 1.7 | 2.1 | 0.1 | 0.8 | −0.8 | 0.8 | 0.4 | 25 | 44 | 202 |
| Jan 16–Dec 17 | Macri, dirty floating | −0.2 | 2.2 | 2.2 | 2.5 | 2.2 | 0.1 | −0.3 | 0.2 | −0.3 | 0.0 | 27 | 47 | 239 |
| Jan–Aug 18 | Macri, dirty floating | −0.9 | 2.1 | 1.5 | 3.1 | 2.1 | 0.2 | −1.5 | 0.4 | −1.6 | −0.6 | 24 | 44 | 190 |
| Sep 18–Aug 19 | Macri, dirty floating | −1.7 | 2.5 | 2.4 | 5.7 | 3.5 | 0.2 | −3.1 | 0.4 | −3.3 | 0.0 | 24 | 44 | 139 |
| Jan 20–Nov 23 | Fernández, hybrid, controls | 0.2 | 3.1 | 4.6 | 3.6 | 4.4 | 0.4 | 1.0 | 0.1 | 1.0 | 1.4 | 24 | 44 | 159 |
| Feb 24–Apr 25 | Milei, crawling peg | −2.2 | 8.8 | 6.9 | 8.4 | 8.9 | 0.2 | −1.2 | 1.2 | −1.5 | −2.0 | 18 | 36 | 121 |
| May 25–Jun 26 | Milei, floating + bands | 0.9 | 3.8 | 2.2 | 2.5 | 2.5 | 0.2 | −0.2 | 1.2 | −0.3 | −1.6 | 17 | 34 | 107 |

Notes: all entries except the last three columns are monthly equivalents of annualized rates of change in percent. i is the lending rate on single-signature promissory notes; $\mu$ the growth of the monetary aggregate; g the growth of national primary spending; e the devaluation of the official exchange rate; $\pi$ domestic and $\pi^*$ US consumer price inflation; gUSD the growth of primary spending measured in dollars at the official rate; x the growth of exports. Gn/Y is national non-financial public spending and Gc/Y consolidated public spending, both as a percentage of GDP and reported as period averages of the annual figures. Periods are delimited by changes of administration and of exchange-rate regime; January 2018–August 2018 is separated from September 2018–August 2019 at the onset of the IMF program. Source: author's calculations from BCRA, INDEC and Secretaría de Hacienda.

Table 2. Real lending rates by exchange-rate regime, compounded annual percent.

| | | Companies | | Individuals | | |
|---|---|---|---|---|---|---|
| Period | Exchange-rate regime | $r^T$ | $r^{NT}$ | Peso | Official | Free |
| Jan 2000–Dec 2001 | Convertibility | 13.4 | 17.6 | n.a. | n.a. | n.a. |
| Jul 2005–Dec 2011 | Hybrid with capital controls | 5.3 | −4.0 | 11.5 | 22.4 | 20.8 |
| Jan 2012–Nov 2015 | Hybrid with capital controls | 0.4 | −2.6 | 12.3 | 15.8 | 6.1 |
| Jan 2016–Dec 2017 | IT, dirty floating, no controls | 5.7 | 2.0 | 17.1 | 21.3 | 28.5 |
| Jan 2018–Aug 2018 | IT, dirty floating, no controls | −51.7 | −1.0 | 10.1 | −46.3 | −30.2 |
| Sep 2018–Aug 2019 | MT, dirty floating, IMF support | 11.4 | 16.7 | 20.7 | 15.3 | 3.6 |
| Jan 2020–Nov 2023 | Hybrid with capital controls | −1.4 | −9.4 | 7.6 | 17.1 | −3.6 |
| Feb 2024–Apr 2025 | Crawling peg with capital controls | 14.1 | −11.7 | 22.0 | 57.7 | 91.5 |
| May 2025–Jun 2026 | Dirty floating with Bands | 19.0 | 14.2 | 53.5 | 59.8 | 74.3 |

Notes: IT: inflation targeting; MT: monetary targeting. Companies = loans against single-signature promissory notes ("documentos a sola firma"); individuals = personal loans. $r^T$: monthly peso rate deflated by the same-month devaluation of the official exchange rate and by US consumer price inflation, the empirical counterpart of $i - \pi^* - e$ in equation (5). $r^{NT}$: the same nominal rate deflated by Argentine consumer price inflation, used as a proxy for $\pi^{NT}$; since the index is a weighted average of tradable and non-tradable inflation it lies below $\pi^{NT}$, so the reported $r^{NT}$ is an upper bound and the wedge $r^T - r^{NT}$ a lower bound. For individuals, "Peso" is deflated by Argentine consumer prices; "USD, off." and "USD, free" by the devaluation of the official and free exchange rates respectively, in both cases followed by the US price adjustment. All figures compounded to annual equivalents. January 2002–June 2005 is omitted: the pesificación, the deposit freeze and the sovereign default make the series non-comparable, and the debt restructuring concluded only in June 2005. Under Convertibility the devaluation rate is zero by construction; the personal-loan series does not begin until 2002. The January–August 2018 figures are dominated by the devaluation of that window and are reported for completeness rather than as a measure of the cost of capital. Omitting the US price adjustment raises the dollar figures by one to six percentage points without altering the ranking. Source: author's calculations from BCRA, Estadísticas Monetarias Históricas, and INDEC.

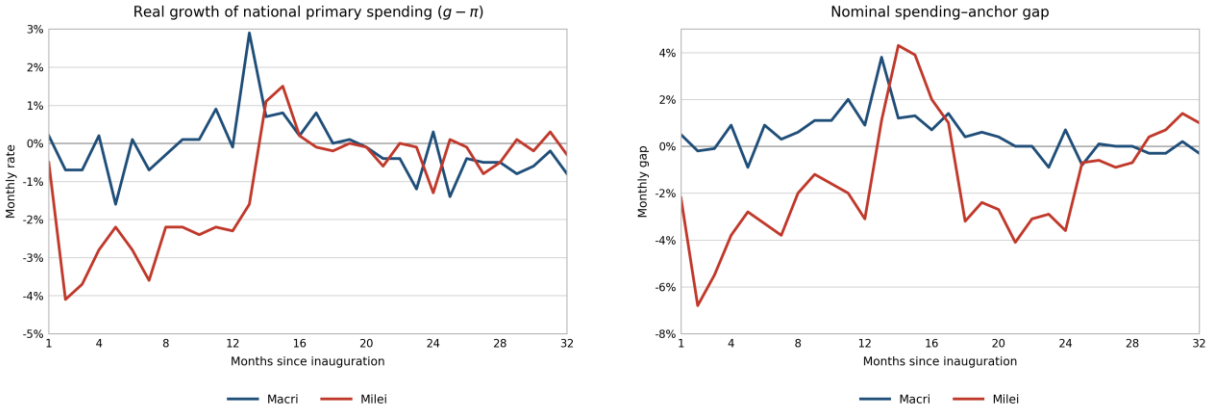



Figure 2. Fiscal adjustment and nominal-anchor gap under Macri and Milei, months since inauguration. Left panel: real growth of national primary spending, g − π. Right panel: nominal spending growth relative to the operative nominal anchor. For Macri, the benchmark is a 25 percent annual inflation rate (1.9 percent monthly equivalent) through May 2016 and twelve-month-ahead REM expected inflation thereafter; for Milei, g − e through April 2025 and g − μ thereafter. Source: author's calculations based on Secretaría de Hacienda, BCRA, INDEC, and REM data.

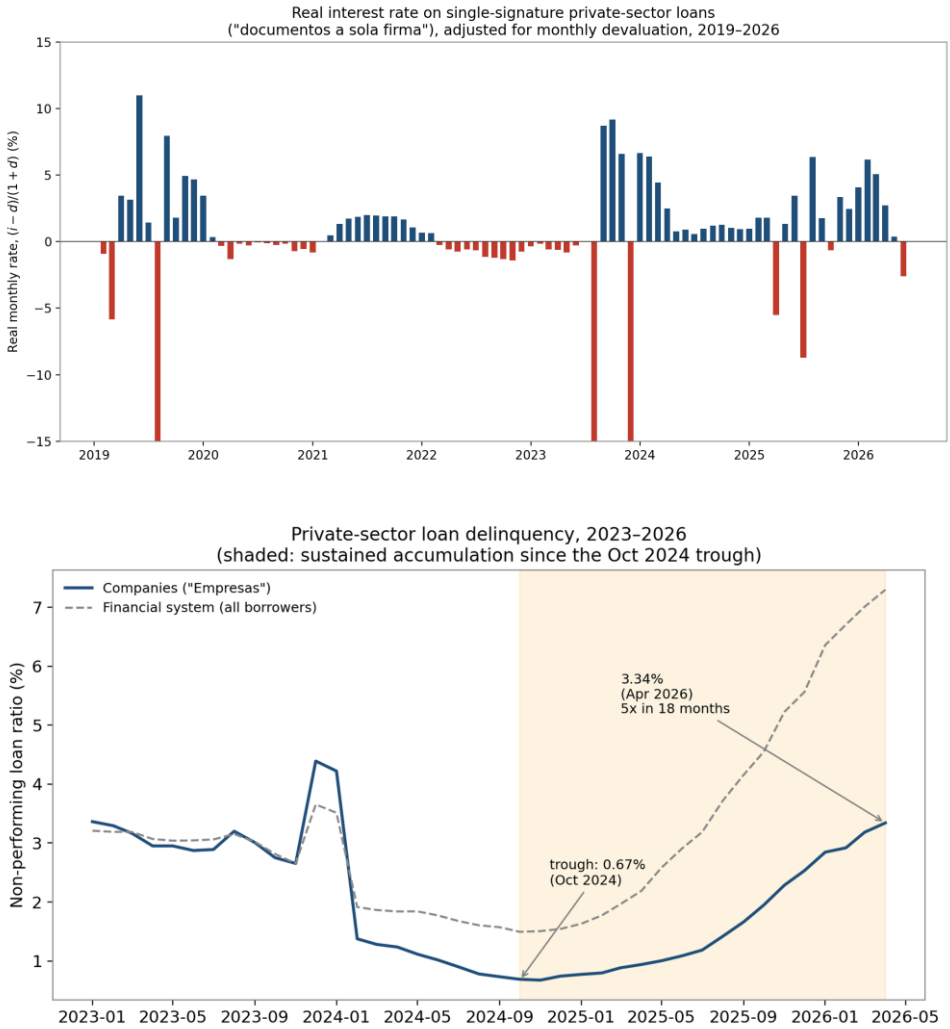



Figure 3. Decapitalization indicators. Top panel: real monthly interest rate on single-signature private-sector loans, deflated by same-month devaluation, 2019–2026. Bottom panel: non-performing loan ratio for private-sector borrowers by segment; the corporate series is the empirical counterpart most closely aligned with Ribas's mechanism. Source: BCRA, Monetary and Financial Framework and Informe sobre Bancos.

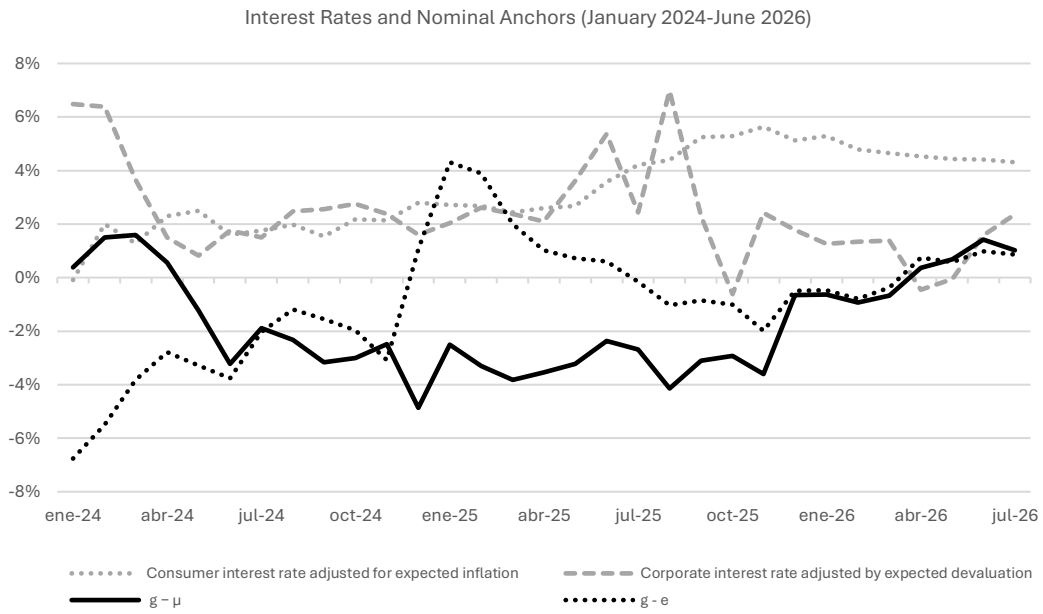



Figure 4. Interest rates and spending–anchor gaps, January 2024–June 2026. The consumer series is the lending rate adjusted by expected inflation; the corporate series is the expected dollar cost of peso borrowing, calculated using expected depreciation. The fiscal series show g−e and g−μ, as defined in the text. The spending–anchor gaps are expressed as monthly equivalents of annual rates; for g−μ, μ is the growth rate of the monetary base. Sources: BCRA, REM, Universidad Torcuato Di Tella, and Secretaría de Hacienda; author's calculations.

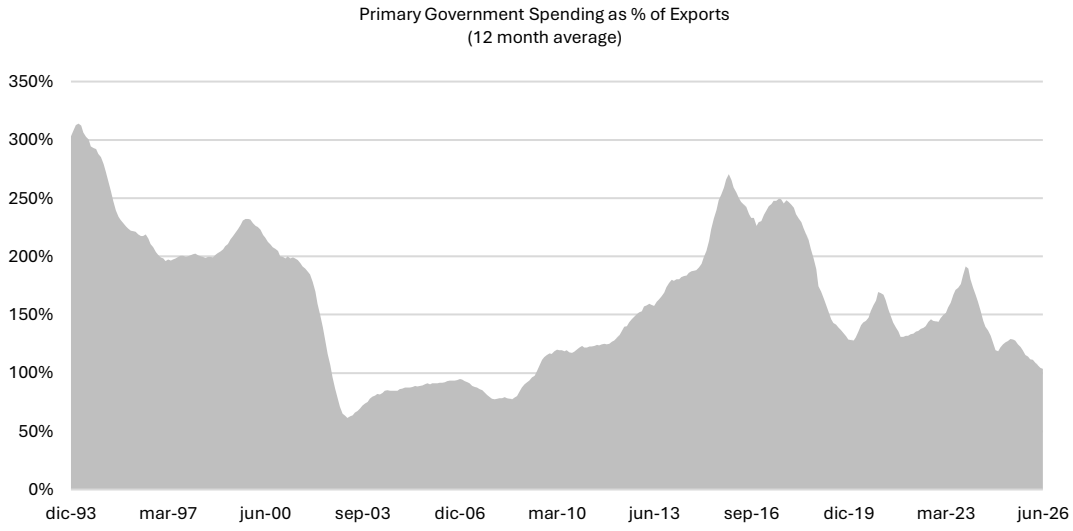



Figure 5. National primary spending (excluding *gastos figurativos*) in US dollars at the official exchange rate as a percentage of exports, monthly and twelve-month accumulated, 1994–2026. Source: author's calculations based on official data.

**Appendix B: Dynamic Closure in the Closed Economy**

Ribas's Gráfico 3 treats μ as an exogenous monetary-policy variable but supplies no money-demand equation. Auernheimer (1983) closes the same closed-economy problem with a Cagan-type demand for real balances and adaptive expectations. In the notation of this paper, let m denote real money balances and $\pi^e$ expected inflation:

$$m = \ell(\pi^e), \qquad \ell' < 0$$

$$\dot{\pi}^e = \beta(\pi - \pi^e), \qquad \beta > 0$$

The accounting identity for real balances is:

$$\dot{m}/m = \mu - \pi$$

A stationary monetary equilibrium therefore requires $\mu = \pi$. Under passive money, $\mu$ adjusts endogenously to the fiscal financing requirement. In the long run the spending rule pins inflation; using the notation of §3.4, $\pi_{ss} = g - n$. This is the closed-economy counterpart of the passive-money result emphasized by Auernheimer.

The distinction matters for the allocation law. If one mechanically replaces e by an autonomous μ in equation (4) and holds μ fixed, the real-allocation equation becomes $\dot{\sigma} = \sigma[(1 - \sigma)(g - \mu) - n]$. Conditional on maintaining that nominal rule, its solution is logistic:

$$\sigma(t) = \sigma_{ss}/\ \{1 + [(\sigma_{ss}/\sigma_0) - 1]\ \exp[-(g - \mu - n)t]\}$$

where $\sigma_{ss} = 1 - n/(g - \mu)$ when $g - \mu > n$. But this is only a conditional allocation path, not a full monetary steady state. Along it, equation (3) implies $\pi_{ss} = g - n$; if $\mu \neq g - n$, real balances continue to change at the constant asymptotic rate $\mu - (g - n)$, contradicting stationarity of money demand. Hence an autonomous $\mu$ inconsistent with the spending rule admits no long-run monetary equilibrium: either money growth accommodates or the fiscal/nominal-spending rule must change. This is why the long-run fall in $i$ drawn in Ribas's Gráfico 3 cannot be established from his 1984 apparatus alone.

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