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TRILEMMA OR DILEMMA? OLIVERA'S MONETARY HETERONOMY AND THE GLOBAL FINANCIAL CYCLE

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Trilemma or dilemma?
Olivera's Monetary Heteronomy and the Global Financial Cycle

Emilio Ocampo*

Abstract

This paper revisits Julio H. G. Olivera's largely forgotten theory of monetary heteronomy, developed between 1977 and 1983, and relates it to the Global Financial Cycle. Olivera showed that international monetary autonomy is inherently asymmetric: under passive international money, only one country can simultaneously determine its domestic money supply and its exchange rate against the international monetary unit. The paper argues that the endogenous creation of international dollar liquidity by global financial intermediaries, influenced by Federal Reserve policy, provides a contemporary mechanism for monetary heteronomy. Evidence from trilemma indexes and high-frequency monetary-policy shocks shows that floating provides only partial monetary autonomy and that international monetary influence remains hierarchical. These results challenge the conventional view that floating exchange rates automatically establish monetary autonomy.

JEL Classification: E52, E58, F33, F36, F42.

* I received valuable comments from Ariel Coremberg. The views expressed here do not necessarily represent those of Universidad del CEMA (UCEMA). This paper develops and adapts an earlier Spanish-language essay by the author. The author used artificial intelligence programs as a research assistant to translate and adapt material from the author's work, verify bibliographic details, help draft and revise the English text and complete empirical tests. All theoretical claims, empirical interpretations, editorial choices, and final revisions are the author's, as are any remaining errors.

1. Introduction

The open-economy models developed by Fleming (1962) and Mundell (1963) showed how capital mobility and the exchange-rate regime constrain monetary policy. The result was later summarized as the familiar trilemma: countries can choose only two among exchange-rate stability, capital mobility, and monetary autonomy (Obstfeld, Shambaugh, and Taylor 2005). For a financially open country, the practical implication was clear: preserving monetary autonomy required exchange-rate flexibility. The Global Financial Cycle (GFC) literature (see Rey, 2013 and 2016; Kalemli-Özcan, 2019; Miranda-Agrippino and Rey, 2020 and 2022; Juselius and Xia, 2026) has qualified that conclusion by showing that U.S. monetary and financial conditions are transmitted widely even to countries with flexible exchange rates.

The issue is especially relevant for Latin America. After Brazil abandoned its exchange-rate regime in 1999 and Argentina's Convertibility collapsed in 2001, exchange-rate flexibility combined with inflation targeting became the dominant framework for the region's financially open economies. The fixed-versus-floating debate was widely treated as settled. But if a floating regime does not restore the degree of monetary autonomy attributed to it, one of the central arguments behind that consensus weakens.

More than three decades before the GFC literature emerged, Julio H. G. Olivera (1977, 1980a, 1982 and 1983) developed a theory of monetary heteronomy that sheds light on the debate. Olivera asked whether all countries in an integrated international monetary system could be monetarily autonomous at the same time. His answer was negative. Between 1977 and 1983, his argument progressed from monetary autonomy and heteronomy to passive international money, monetary leadership, and monetary hegemony. Under passive international money, his general-equilibrium

model leaves one degree of freedom: only one country can determine both its domestic monetary quantity and the international value of its currency; the others cannot do both.

Internationally, Olivera's theory of monetary heteronomy was largely ignored by mainstream academics; in Latin America, it was largely overshadowed by his theory of structural inflation.[1] Part of the explanation may be that three of the four papers in which he developed it were published in Spanish, while the sole English-language statement appeared outside the journals in which the modern literature on international monetary autonomy subsequently developed. As a result, the argument never entered the intellectual lineage that led from the Mundell-Fleming framework to the modern literature on the trilemma and the GFC.

Yet one feature of the contemporary system –the elastic creation of international dollar liquidity through banks, securities markets, and central-bank backstops– offers a possible counterpart to his passive international money. The GFC literature, in turn, identifies mechanisms through which monetary conditions in the center affect risk premia, leverage, credit, and asset prices elsewhere. This paper does not claim that Olivera anticipated the GFC model; modern finance adds expected exchange-rate changes, time-varying risk premia, and policy instruments that are absent in his framework. But his original insight—that not all currencies are equal—survives and has powerful implications.

The paper reconstructs Olivera's theory and examines its empirical implications in two steps. First, using the Aizenman-Chinn-Ito trilemma indexes, it measures how much independence in setting

[1] In a memorial essay on Olivera, Montuschi and Chisari (2016), Montuschi describes his non-monetary theory of inflation as probably his most important contribution and as a fundamental part of Latin American structuralism, while Chisari devotes substantial attention to passive money in the context of structural inflation. Notably, neither author discusses Olivera's monetary heteronomy thesis; Chisari mentions international monetary autonomy only in passing, as one item in a long list of Olivera's research interests.

short-term rates emerging economies actually gained after moving to more flexible exchange-rate regimes. The event-time evidence shows only a small and highly heterogeneous increase in monetary independence, with a median gain close to zero, alongside a much larger decline in exchange-rate stability. Second, using high-frequency monetary-policy shocks from the Federal Reserve, ECB, Bank of England, and Bank of Japan, it examines how much foreign monetary influence remains over broader financial conditions. The evidence shows that central banks retain substantial control over short-term interest rates, while long-term yields are much more sensitive to foreign monetary-policy shocks. The geographical reach of these shocks differs markedly: the Federal Reserve's influence extends across the world, whereas the ECB's is concentrated in Europe. Taken together, the results support a qualified modern interpretation of Olivera and explain why his theory remains relevant to the fixed-versus-floating debate in open emerging market and developing economies (EMDE).

The remainder of the paper is organized as follows. Section 2 reconstructs the development of Olivera's theory from monetary heteronomy to monetary leadership and hegemony. Section 3 examines whether the contemporary dollar-based system provides a plausible counterpart to his concept of passive international money. Section 4 relates Olivera's framework to the Global Financial Cycle, original sin, and financial dollarization. Section 5 examines the empirical implications using the Aizenman-Chinn-Ito trilemma indexes and high-frequency monetary-policy shocks from the major central banks. Section 6 concludes.

2. The Development of Olivera's Theory

2.1. Autonomy and heteronomy

Olivera (1977) begins with the conventional proposition that exchange-rate flexibility restores national monetary autonomy. Under fixed exchange rates, domestic monetary equilibrium is

constrained by external conditions; under flexible rates, adjustment occurs through the exchange rate and each country can, in principle, determine its own money supply independently. Olivera's purpose was to establish the limits of this proposition.

He first considered fixed exchange rates. Once national monetary systems are connected through a fixed conversion relation, treating the relevant nominal magnitudes in every country as independently determined can overdetermine the international equilibrium. The resulting asymmetry is what Olivera called autonomy and heteronomy: hegemonic countries can determine their monetary variables independently, while the rest must accept monetary conditions partly determined abroad.

The more original result concerned flexible rates. With no international capital mobility, Olivera obtained the conventional result: exchange-rate flexibility permits independent national monetary policies. But with perfect capital mobility, static expectations, and riskless international arbitrage, this independence disappears. Capital movements effectively constrain the exchange rate and reproduce the overdetermination found under fixed rates. Thus floating, by itself, does not guarantee autonomy when financial integration is sufficiently complete.

Olivera did not conclude that countries were simply either autonomous or heteronomous. With imperfect capital mobility, the distinction becomes one of degree. His broader conclusion was that the distribution of monetary autonomy reflects the distribution of economic power in the international system. If the balance of power is not sufficiently defined, several countries may attempt to behave autonomously, potentially producing irregular properties of international equilibrium.

Olivera (1977) therefore identified the central proposition: international monetary integration may be incompatible with equal monetary autonomy for all countries. It did not yet provide a general mechanism explaining which country would be autonomous or why.

2.2. Passive international money

Olivera (1980a) supplied the missing element by adding imperfect international capital mobility to the earlier model. His solution was to introduce the concept of passive international money. Applied internationally, this means that the quantity of international means of payment is not fixed independently of the monetary system but responds to the demand for international liquidity. Under this assumption, Olivera argued, the autonomy-heteronomy result no longer depends on perfect capital mobility.The reason is dimensional. If the real equilibrium of the world economy is determinate, the associated monetary equilibrium has one degree of freedom. Conventional international monetary models generally eliminate that degree of freedom by treating the world money stock as an exogenous datum. With passive international money, it remains available.

The implication is an asymmetry in monetary sovereignty. One country can simultaneously determine its national money supply and its exchange rate against the international monetary unit. The other countries must choose between regulating their money supplies and fixing their exchange rates. The result no longer requires perfect international capital mobility. Olivera also stressed that the distinction between national and international money was legal rather than economic, an observation that becomes particularly relevant when applying his theory to the contemporary dollar-based system.

This is the crucial step in Olivera's theory. The source of heteronomy is no longer capital mobility alone but the institutional architecture of the international monetary system. Whether international

money is active or passive is therefore not merely a modeling convention. Olivera explicitly regarded it as an empirical and institutional question. Indeed, he argued that by 1980 there was little room for doubt: since 1969, adapting the international monetary stock to the "needs of trade" had become an explicit criterion of international monetary regulation, citing Polak (1970). Olivera went further and added that if more than one country attempted to exercise monetary autonomy, the international monetary order became overdetermined, incoherent, and therefore contradictory. What might appear to be a failure of adjustment mechanisms was in fact more fundamental: there was no general-equilibrium position toward which markets could adjust.

2.3. From heteronomy to monetary leadership

The argument emerged in its most complete formal statement in Olivera (1982). Here he considered an *n*-country world economy in which each country issues its own fiduciary money and an international monetary instrument is accepted universally. The quantity of this international money is adjusted to its demand—the "needs of trade" criterion or "demand standard."[2] The model also allows internationally traded financial claims denominated in national currencies.

The real system is determinate, while the monetary system retains exactly one degree of freedom. Suppose a country fixes both its national money supply and its exchange rate against international money. This fixes the relevant nominal scale and determines the remaining monetary variables. It follows that one, and only one, country can independently choose both the quantity of its currency and its international value; the other n−1 countries must relinquish control over one of them. The asymmetry disappears if the quantity of international money is instead prescribed exogenously.

[2] Olivera did not explicitly consider the additional role that the leader's currency may acquire as a private safe asset in heteronomous economies. This issue is discussed below.

This converts heteronomy into a theory of monetary leadership. Comparative statics show why the distinction matters. The leading country can use its own monetary variables to pursue domestic monetary objectives while influencing the international price level. The others retain domestic policy objectives but operate within conditions partly established by the leader. Olivera stressed that this result did not depend on many of the simplifying assumptions of the particular model; its essential basis was the determinacy of real equilibrium and the dimensional property of monetary equilibrium.

Olivera (1982) also added a dynamic analysis. With international money adjusting passively to demand, both fixed-rate and flexible-rate adjustment mechanisms can be globally stable in the simplified monetary system. By contrast, holding the international money stock constant removes this qualitative stability result. These stability propositions are separate from the leadership theorem. Endogenous international money produces the asymmetry; the particular rule by which it adjusts determines the stability properties of the resulting equilibrium.

2.4. Monetary hegemony

The last paper, Olivera (1983), did not constitute a new stage of the formal argument. Olivera stated explicitly that it was based on the 1982 article. Its importance lies instead in the interpretation of the result. The paper restated the model in Spanish and described the position of the monetary leader as one of monetary hegemony. If international money adjusts to market demand, only one country can determine both its domestic money supply and the international value of its currency; this confers influence over international monetary equilibrium.

Olivera also connected the assumption of passive money to contemporary institutions. He pointed to the creation of Special Drawing Rights, increases in IMF quotas, and other reserve assets as

evidence that international liquidity was being deliberately adapted to the needs of international transactions. He concluded that international economic dependence need not arise from monopoly in product markets or technological disparities; it could emerge from the institutional structure of the monetary system. The contribution of Olivera (1983) was therefore to make explicit what was implicit in the 1982 model: monetary leadership was a form of international economic power.

2.5. The complete argument

Taken together, the four papers form a cumulative argument rather than four versions of the same proposition: Olivera (1977) identifies monetary heteronomy and shows that financial integration can limit the autonomy normally attributed to floating exchange rates; Olivera (1980a) makes the result more general by introducing passive international money; Olivera (1982) derives monetary leadership formally in an *n*-country system and studies its dynamics and finally Olivera (1983) interprets that leadership as monetary hegemony and connects the theory to the institutional supply of international liquidity.

The whole argument can be reduced to three propositions. First, a determinate real system leaves the monetary system with a limited number of nominal degrees of freedom. Second, if international money is supplied passively, one such degree of freedom remains at the international level. Third, control over that degree of freedom need not be distributed symmetrically: a monetary leader can determine both its domestic monetary quantity and the international value of its currency, while other countries cannot do both simultaneously. If international money is instead exogenous, the source of this asymmetry disappears.

3. The dollar as passive international money

Olivera did not regard passive international money as a purely theoretical assumption. He explicitly treated the exogeneity or endogeneity of world money as an empirical question determined by institutions and argued that, by 1980, there was little doubt that international liquidity was being adjusted to the "needs of trade." His evidence, following Polak (1970), concerned the institutional regulation of international reserves. Applying his argument to the contemporary monetary system requires updating that empirical identification. Two propositions must therefore be established. First, dollar-denominated monetary claims must perform the international monetary functions assigned to *G* in Olivera's model, with the dollar serving as their common unit of account. Second, the supply of these claims must satisfy the essential condition of endogeneity or passivity. Second, the supply of internationally usable dollar liquidity must satisfy the same essential condition of endogeneity or passivity.

Regarding the first proposition, the evidence confirms that the dollar dominates global funding, invoicing, reserve holdings, and asset denomination. Ilzetzki, Reinhart, and Rogoff (2019) show that it remains the dominant anchor currency by a wide margin, while Gopinath and Stein (2021) explain how complementarities between trade invoicing, safe assets, and global banking can generate a single dominant currency even when several large economies are potential candidates. Gopinath et al. (2020) provide empirical support for the dollar's role as the dominant unit of account in international trade, showing that dollar-denominated invoicing makes the dollar exchange rate more important than bilateral exchange rates for international price transmission and trade flows. The dollar thus provides the dominant international unit of account or numeraire, while dollar-denominated monetary claims issued by financial intermediaries perform many of the functions assigned to international money in Olivera's model.

Olivera's (1980b, pp. 210–212, 218–222) monetary taxonomy helps clarify this distinction. He distinguished the *numeraire*, the unit in which economic values are expressed, from *money*, the general medium of exchange, and from the *monetary standard*. He also distinguished bank or *giro money*, consisting of transferable purchasing power expressed in monetary units, from other forms of money, emphasizing the role of convertibility. Applied to the contemporary international monetary system, these distinctions imply that the dollar can serve as the dominant international numeraire even when international money is created by institutions other than the Federal Reserve. Dollar-denominated bank deposits can perform monetary functions without being Federal Reserve liabilities. Hence, the international monetary stock G can be expressed in dollars without being identical to the U.S. monetary base M_{US}. The relevant distinction is between the common unit of account and the various monetary claims denominated in that unit, whose quantity can expand or contract endogenously.

Regarding the second proposition, two forms of monetary endogeneity must be distinguished. The first arises when a central bank implements monetary policy through an interest-rate rule rather than by fixing the quantity of reserves. As Leijonhufvud (2007, 2009) emphasized, the money stock can then adjust endogenously to demand. The second arises from the creation of dollar-denominated monetary liabilities by global financial intermediaries. International banks can expand credit and create dollar deposits without a proportional expansion of the monetary base supplied by the Federal Reserve. This second mechanism provides a closer contemporary counterpart to Olivera's passive international money.

The relationship between the two monetary aggregates can be represented as $G = k\, M_{\mathrm{US}}$, where k is an endogenous, time-varying ratio that varies with financial leverage, dollar funding costs, risk appetite, collateral conditions, and regulation. This is not a conventional reserve multiplier:

international banks can create dollar-denominated deposits without a proportional increase in the U.S. monetary base. Moreover, both M_{US} and k can adjust endogenously to monetary and financial conditions. The Federal Reserve influences the cost of dollar funding and the availability of settlement liquidity, thereby affecting the conditions under which international bank money is created. The crucial distinction, consistent with Olivera's monetary taxonomy, is between the dollar as the common international unit of account and the quantity of monetary claims denominated in that unit.

The historical context in which Olivera developed his theory supports this interpretation. During the mid to late 1970s, the expansion of the Eurodollar market and the recycling of petrodollars through international banks demonstrated the growing importance of privately intermediated dollar liquidity. Although Olivera emphasized Special Drawing Rights, IMF quotas, and other official reserve assets, international banks were already creating dollar-denominated monetary claims through their lending operations. His observation that the endogeneity of international money depends on institutional arrangements can therefore be extended to the private financial architecture of the international dollar liquidity system.

The GFC literature provides the corresponding mechanism of international transmission. Miranda-Agrippino and Rey (2020) show that U.S. monetary policy affects global intermediary leverage, credit supply, asset prices, risk premia, and capital flows. McCauley, McGuire, and Sushko (2015) provide complementary evidence linking U.S. monetary policy, intermediary leverage, and international dollar credit, documenting a shift from bank lending toward bond-market financing following the global financial crisis.

In this interpretation, the Federal Reserve does not directly determine G, but strongly influences the conditions governing k. The correspondence with Olivera is functional rather than literal. His international monetary instrument is distinct from national currencies, whereas dollar monetary claims issued by international intermediaries are normally convertible at par into other forms of dollars. Consequently, $G = k\, M_{US}$ does not reproduce the independent exchange-rate degree of freedom in Olivera's formal leadership theorem. It instead identifies a contemporary financial mechanism through which international monetary autonomy remains asymmetric.

Dollar dominance also makes the asymmetry more consequential than in a system of otherwise equivalent national monies. The issuer of the dominant international currency influences the monetary conditions governing the currency that other countries use for funding, pricing, saving, and reserves. Countries that merely use or borrow in that currency occupy a different position.

In some heteronomous economies, the asymmetry is deeper because the dominant currency also serves as the principal private safe asset. Argentina is the paradigmatic case: residents use the dollar not only for denomination and saving but as protection against domestic monetary and political risk.[3]

This is the institutional setting in which Olivera's distinction between monetary leadership and heteronomy becomes empirically relevant.

[3] In Argentina, political uncertainty has historically led to an increase in the demand for physical dollars. This demand is exacerbated when capital controls are imposed or anticipated because, unlike domestic bank deposits or transferable financial claims, they lie outside the domestic regulatory and banking system. The resulting substitution is particularly costly: dollars held as currency are withdrawn from financial intermediation, while the contraction in peso money demand weakens bank funding and domestic credit. In this context, capital controls can therefore aggravate demonetization by increasing the value of holding the safe asset outside the domestic financial system.

4. Olivera and the Global Financial Cycle

Olivera and the GFC literature approach the same constraint from opposite directions. The former starts from the determination of international monetary equilibrium; the latter starts from observed global co-movement in asset prices, capital flows, credit, and risk. The point of contact is that both attempt to address whether exchange-rate flexibility gives financially integrated countries effective monetary insulation.

Miranda-Agrippino and Rey (2020) document a common global factor in risky asset prices that explains more than 20 percent of their variation and identify U.S. monetary policy as an important driver of that factor. A Federal Reserve tightening is followed by lower risky asset prices, deleveraging by global intermediaries, a contraction in global credit, wider corporate spreads, and a retrenchment of international capital flows. Their interpretation emphasizes the dollar's role as an international funding currency and the large share of global portfolios denominated in dollars. These effects are not confined to countries that peg their currencies to the dollar. Restricting the sample to independently floating economies produces contractions in credit and capital inflows of similar magnitude. They are careful not to claim that exchange-rate regimes are irrelevant; their result is narrower: floating does not provide a complete shield against U.S. monetary shocks. Their later survey summarizes the implication in terms remarkably close to Olivera's terminology: with open capital markets, and absent capital controls or macroprudential instruments, domestic monetary conditions can be partly dictated by the monetary policy of the "hegemon," even under flexible exchange rates.

The connection with Olivera is therefore deeper than the existence of international spillovers. Spillovers by themselves imply interdependence, not heteronomy. Olivera's stronger proposition concerned asymmetry in the determination of monetary equilibrium: one country could occupy a

position from which its monetary choices conditioned the feasible choices of others. The GFC literature supplies a set of mechanisms through which such asymmetry may operate in modern financial markets. The connection can be expressed through the endogenous liquidity multiplier introduced in the previous section. Federal Reserve policy influences the cost and availability of dollar funding and, consequently, the global financial conditions governing k. The resulting expansion or contraction of international dollar liquidity affects other countries regardless of their exchange-rate regimes. Monetary heteronomy thus operates not necessarily through the loss of control over the domestic policy rate, but through the dependence of domestic financial conditions on a monetary and financial system dominated by an external issuer.

Olivera's argument also has a natural connection with the original sin literature. The two address different questions but reject the same symmetry assumption. Olivera shows that national currencies need not confer equal monetary autonomy; Eichengreen, Hausmann, and Panizza (2003) show that they do not confer equal capacity to denominate international liabilities. The original-sin problem arises because many emerging economies cannot borrow abroad in their own currency on the same terms as issuers of major international currencies. A model that treats the peso, real, dollar, and euro as equivalent national monies by construction cannot address either phenomenon.

Original sin and financial dollarization are also connected. The former concerns the currency denomination of external borrowing; the latter also encompasses foreign-currency deposits, loans, and contracts inside the domestic economy. But both make depreciation a costly adjustment mechanism. When liabilities are denominated in dollars while revenues and incomes are in domestic currency, depreciation increases debt burdens and weakens balance sheets; in highly

dollarized economies it also tends to raise pass-through. The exchange rate therefore cannot absorb external shocks as freely as the textbook trilemma presumes.

This is especially important in some Latin American countries. Calvo and Reinhart's (2002) 'fear of floating' showed that many self-declared floaters resisted exchange-rate movements through interest rates and reserves. Leiderman, Maino, and Parrado (2006) found that dollarization alters monetary transmission and policy reactions, although it does not preclude inflation targeting. A further consideration, particularly relevant to Argentina, is that many residents regard the dollar as their principal safe asset. Under heightened political uncertainty, especially when capital controls are imposed or anticipated, increased demand for physical dollars can contribute to financial disintermediation.

More recent evidence is even closer to Olivera. Juselius and Xia (2026) find that among emerging-market floaters, countries combining high dollar-denominated external debt with shallow FX markets respond strongly to U.S. monetary-policy surprises by moving domestic policy rates in the same direction. Shallow FX markets are also associated with greater foreign-exchange intervention, while the most financially vulnerable economies exhibit no larger—and in some specifications smaller—exchange-rate responses. These findings suggest that formal exchange-rate flexibility may provide less effective monetary autonomy when financial vulnerabilities make depreciation costly.[4]

Modern finance adds adjustment margins that were largely absent from Olivera's 1977 flexible-rate model. Under perfect capital mobility, static expectations, and riskless arbitrage, his exchange

[4] Argentina's 2016–2018 inflation-targeting experiment illustrates the problem: financial dollarization and high pass-through made exchange-rate adjustment far from costless.

rate lost much of the independent role normally assigned to it. With expectations and risk premia, the relevant relation is instead

$$i_{j,t} - i_{US,t} = E_t \, \Delta s_{j,t+1} + \rho_{j,t}$$

where $E_t \, \Delta s_{j,t+1}$ is expected depreciation and $\rho_{j,t}$ is a time-varying risk premium. These variables restore formal degrees of freedom: the exchange rate can move, and the risk premium can absorb part of an external shock. But the margins are neither exogenous nor equally usable across countries. Federal Reserve policy itself affects risk appetite, leverage, credit supply, spreads, and the dollar; original sin and financial dollarization raise the cost of exchange-rate adjustment.

The evidence does not support the strongest version of Olivera's theorem, but neither does it restore the textbook symmetry. Flexible exchange rates can attenuate spillovers, but they do not remove the hierarchy created by dollar funding and currency denomination. The degree of effective autonomy depends on where a country stands in that hierarchy and on the instruments available to absorb external shocks.

The conventional trilemma literature provides considerable evidence that floating increases control over the short-term policy rate. Klein and Shambaugh (2015), for example, find that the response of domestic interest rates to the base-country rate declines sharply as the exchange-rate regime moves from peg to soft peg to float. They conclude that exchange-rate flexibility is the most reliable way to obtain monetary autonomy without restricting capital mobility. Klein and Shambaugh measure autonomy by the extent to which the domestic short-term interest rate can move independently of the base-country rate. Their results show that exchange-rate flexibility widens that range. Olivera's argument, however, is that even under floating the feasible range of monetary policy may remain constrained by the structure of the international monetary system.

This suggests a distinction between instrument control and monetary autonomy. A central bank may set its overnight rate while having much less control over the borrowing costs, risk premia, credit conditions, and asset valuations through which policy affects the economy. Monetary heteronomy need not mean mechanically copying the leader's policy rate; it can operate through the financial conditions within which the domestic rate is chosen.

The distinction is particularly relevant for financially dollarized EMDE. If depreciation is costly because of balance-sheet effects or pass-through, the central bank is likely to use the policy rate, reserves, or FX intervention to resist it. Formal exchange-rate flexibility then provides less effective autonomy than the trilemma suggests. In financially dollarized economies, inflation targeting cannot treat the exchange rate as a passive shock absorber because exchange-rate movements themselves affect financial stability, inflation dynamics, and therefore the feasible range of monetary policy.

Dominant-currency models reinforce the same point. The dollar's use in invoicing, global banking, and safe assets is self-reinforcing, and emerging-market firms can endogenously acquire currency mismatches by borrowing in the dominant currency (Gopinath and Stein 2021). Dollar dominance is therefore not an incidental feature of the GFC; it is part of the mechanism generating monetary asymmetry.

The result is a hierarchy rather than simple interdependence. Miranda-Agrippino and Rey (2020) find the Federal Reserve to be the principal driver of the GFC, while the ECB has important but more regional effects. Olivera's strict one-leader result need not hold in a world with more than one internationally significant currency, but his core proposition survives: monetary sovereignty is not distributed symmetrically.

The empirical analysis therefore asks three questions: how much short-rate independence major Latin American floaters actually obtained; how much foreign monetary influence remains at longer maturities; and whether that influence is distributed symmetrically across monetary centers.

5. Empirical Evidence on Monetary Heteronomy

Olivera's theory has testable implications. Section 3 proposed a functional interpretation of passive international money based on the endogenous creation of dollar liquidity by global intermediaries. The empirical analysis does not directly test the proposed relationship between the U.S. monetary base and international dollar liquidity. Instead, it examines the degree and distribution of monetary autonomy, focusing on whether floating provides effective independence and whether foreign monetary influence is asymmetric.

The analysis proceeds in two steps. First, the Aizenman-Chinn-Ito trilemma indexes are used to measure the short-rate monetary independence obtained by EMDE after adopting floating regimes. Second, high-frequency monetary-policy shocks are used to test whether broader financial conditions remain exposed to foreign monetary centers.

5.1. How much autonomy did floating buy?

The conventional trilemma predicts that greater exchange-rate flexibility should increase monetary independence when capital remains mobile. Klein and Shambaugh (2015) find strong empirical support for this proposition: domestic short-term rates respond much less to changes in the base-country rate under floating than under pegged exchange rates. Floating therefore relaxes the external constraint on the domestic policy rate. Their results, however, leave open two questions that are central here: how much independence emerging economies actually obtain after moving to floating, and how much exchange-rate instability accompanies it.

To examine these questions without selecting countries on the basis of their outcomes, consider a broader group of emerging and developing economies that moved from an exchange-rate target or a more tightly managed arrangement to a managed or independent float with no predetermined exchange-rate path during the 1990s and early 2000s: Brazil, Chile, Colombia, Indonesia, Korea, Mexico, Peru, the Philippines, Poland, South Africa, and Turkey. Transition years follow the de facto regime chronology in Bubula and Ötker-Robe (2002). The Aizenman-Chinn-Ito (ACI) indexes provide comparable cross-country measures of monetary independence (MI), exchange-rate stability (ERS), and financial openness (KAOPEN). MI is constructed from the correlation between monthly domestic and base-country money-market rates; ERS from monthly exchange-rate volatility; and KAOPEN from de jure restrictions on cross-border financial transactions. The three indexes are on a common 0–1 scale and are not normalized separately by country.

A common calendar window is poorly suited to measuring what changed with the regime switch because the transitions occurred in different years. The comparison is therefore aligned in event time. Because ACI report MI as a centered three-year moving average, the pre-float value is the average of T−4, T−3, and T−2 and the post-float value is the average of T+2, T+3, and T+4. The years T−1 through T+1 are omitted, so that the underlying MI windows do not overlap the transition; the same event windows are applied to ERS and KAOPEN. This also reduces contamination from the crises that precipitated several transitions. The exercise remains descriptive rather than a causal estimate of the effect of floating.

Table 1. Event-time changes around the move to floating

Country	T	MI pre/post	ΔMI	ERS pre/post	ΔERS	KAOPEN pre/post	ΔKAOPEN
Brazil	1999	0.39 / 0.67	+0.28	0.74 / 0.14	-0.60	0.00 / 0.33	+0.33
Chile	1999	0.49 / 0.36	-0.14	0.42 / 0.24	-0.18	0.18 / 0.82	+0.64
Colombia	1999	0.55 / 0.40	-0.15	0.32 / 0.36	+0.04	0.11 / 0.16	+0.05
Indonesia	1997	0.25 / 0.41	+0.16	0.89 / 0.13	-0.76	1.00 / 0.72	-0.28
Korea	1997	0.33 / 0.31	-0.02	0.69 / 0.28	-0.40	0.42 / 0.33	-0.08
Mexico	1994	0.35 / 0.62	+0.28	0.75 / 0.31	-0.44	0.36 / 0.70	+0.34
Peru	1990	0.49 / 0.47	-0.02	0.30 / 0.33	+0.03	0.06 / 0.76	+0.70
Philippines	1997	0.62 / 0.38	-0.23	0.34 / 0.29	-0.06	0.53 / 0.45	-0.08
Poland	2000	0.23 / 0.23	+0.00	0.35 / 0.29	-0.06	0.16 / 0.45	+0.28
South Africa	1995	0.17 / 0.77	+0.59	0.33 / 0.30	-0.04	0.08 / 0.16	+0.08
Turkey	2001	0.49 / 0.59	+0.11	0.40 / 0.22	-0.18	0.16 / 0.16	+0.00
Mean		**0.40 / 0.47**	**+0.08**	**0.50 / 0.26**	**-0.24**	**0.28 / 0.46**	**+0.18**
Median		**0.39 / 0.41**	**+0.00**	**0.40 / 0.29**	**-0.18**	**0.16 / 0.45**	**+0.08**

Note: Pre = average of T−4 through T−2; post = average of T+2 through T+4. MI = monetary independence; ERS = exchange-rate stability; KAOPEN = financial openness. South Africa is dated at 1995, when the dual exchange-rate system was unified into a managed float. Source: author's calculations from the Aizenman-Chinn-Ito trilemma indexes, 2020 update; transition dates from Bubula and Ötker-Robe (2002) and IMF country reports.

The event-time comparison yields a sharper result. Across the eleven economies, mean MI rises from 0.40 to 0.47, a gain of only 0.08; the median change is essentially zero, and only five countries record a positive increase at the reported precision. By contrast, mean ERS falls from 0.50 to 0.26, a decline of 0.24, and nine of the eleven countries become less exchange-rate stable. Financial openness rises on average from 0.28 to 0.46. The move toward floating is therefore associated with a large and systematic loss of exchange-rate stability, while the gain in monetary independence is small and highly heterogeneous.

Brazil and Mexico show the textbook pattern most clearly: MI rises by about 0.28 while ERS falls sharply. Indonesia also gains MI, at the cost of a very large decline in ERS. But Chile, Colombia, Korea, Peru, and the Philippines show no MI gain over the event window, and Poland's gain is effectively zero. The result is not that floating never buys instrument autonomy; it is that the autonomy dividend is neither automatic nor substantial on average. The mean MI result is also

sensitive to South Africa: dating its transition at 2000, when the rand became free floating, rather than 1995 reduces the sample mean ΔMI from +0.08 to approximately zero while leaving the ERS result essentially unchanged.

This pattern is consistent with Klein and Shambaugh's finding that floating widens the range over which the domestic short-term rate can move independently of the base-country rate, but it qualifies the stronger interpretation of the trilemma according to which floating restores monetary autonomy. The regime determines one important constraint, but not the amount of usable monetary autonomy ultimately available to the country.

The heterogeneity is particularly relevant to Olivera. A floating exchange rate creates an additional adjustment margin, but the economic value of that margin depends on the monetary and financial structure within which it operates. Original sin, financial dollarization, exchange-rate pass-through, shallow financial markets, and dependence on dollar funding can make exchange-rate adjustment costly and thereby narrow the effective range of domestic monetary policy. The evidence above does not identify the contribution of each factor, but it shows why the exchange-rate regime alone cannot measure monetary autonomy.

The ACI index also measures monetary independence only at the short end of the yield curve. It therefore leads naturally to a second question. Even where floating increases independence in setting short-term rates, does it provide comparable independence over the longer-term financial conditions that determine borrowing, investment, and asset prices? The high-frequency evidence examined next suggests that it does not.

5.2. International transmission of monetary-policy shocks

The second test uses the replication data of Kearns, Schrimpf, and Xia (2023), who identify high-frequency monetary-policy surprises for the Federal Reserve, European Central Bank, Bank of England, and Bank of Japan and measure their effects on interest rates across a large sample of advanced and emerging economies. For each originating central bank, the data distinguish target, policy-path, and long-rate surprises.

Their common-sample country regressions begin in April 2004. For each recipient country, changes in market interest rates are regressed on the three monetary-policy surprises, with heteroskedasticity- and autocorrelation-consistent standard errors. The analysis uses the authors' replication outputs rather than re-identifying the monetary shocks.

The purpose here differs from theirs. Kearns et al. (2023) study the magnitude and determinants of international monetary spillovers; their estimates are used here to ask whether foreign influence differs between short- and long-term rates and whether it is distributed symmetrically across monetary centers.

5.3. Instrument control and monetary heteronomy

The distinction between short- and long-term rates is striking. Table 2 reports the explanatory power of shocks from the four major central banks for one-month interest rates in the United States, euro area, Japan, and United Kingdom.

Table 2. Explanatory power of monetary-policy shocks: one-month rates (R^2)

Origin of shock	United States	Euro area	Japan	United Kingdom
Federal Reserve	**62.0%**	5.7%	4.2%	1.8%
ECB	0.6%	**16.1%**	0.3%	11.8%
BoJ	1.7%	0.7%	**33.6%**	9.2%
BoE	2.2%	1.8%	6.4%	**67.7%**

The diagonal dominates. Domestic monetary-policy shocks account for substantially more variation in short-term rates than foreign shocks. In this sense, the major central banks retain substantial control over the policy instrument.

Table 3 reports the same comparison at the ten-year maturity.

Table 3. Explanatory power of monetary-policy shocks: ten-year yields (R^2)

Origin of shock	United States	Euro area	Japan	United Kingdom
Federal Reserve	**48.8%**	21.7%	22.3%	18.8%
ECB	18.1%	**48.0%**	13.4%	20.9%
BoJ	2.0%	0.2%	**16.7%**	1.0%
BoE	2.7%	1.9%	2.3%	**27.8%**

At the long end of the yield curve, the domestic central bank remains important, but Fed and ECB shocks acquire substantial explanatory power abroad. BoE and BoJ spillovers remain much more limited.

This contrast suggests a distinction that is useful for interpreting Olivera in a modern setting. Control of the domestic policy rate does not imply equivalent control of the financial conditions

faced by domestic borrowers and investors. A central bank may determine the short-term instrument while longer-term yields respond materially to monetary developments abroad.

This is the distinction between instrument control and monetary autonomy. It is not identical to Olivera's original formulation, which concerned money supplies and exchange rates, but it preserves the central question: which monetary variables remain effectively under national control once the economy is integrated into an international monetary system?

The result also helps reconcile two apparently conflicting propositions. Floating exchange rates and independent central banks can preserve meaningful control of the short-term policy instrument, while the GFC simultaneously limits control over broader financial conditions. Monetary autonomy is therefore not an all-or-nothing property.

5.4. Is monetary influence symmetric?

Olivera's notion of leadership requires more than spillovers. Symmetric spillovers would indicate interdependence. Monetary heteronomy requires an asymmetry in influence.

Reciprocal relationships among the major monetary centers are compared using the ten-year-yield regressions. For the United States and euro area, the estimated effects are surprisingly symmetric. The response of euro-area yields to Fed target, path, and long-rate surprises is approximately 0.61, 0.61, and 0.52 respectively. The corresponding response of U.S. yields to ECB shocks is 0.80, 0.67, and 0.70. Approximate tests of equality do not reject symmetry for any of the three components.

The United States–United Kingdom relationship is different. Fed target and path shocks produce responses of approximately 0.65 and 0.70 in U.K. ten-year yields, compared with 0.17 and 0.30

for the effects of corresponding BoE shocks on U.S. yields. Approximate tests reject equality at conventional levels for both components. The ECB–U.K. relationship displays a similar asymmetry: ECB path and long-rate shocks have materially larger effects on U.K. yields than BoE shocks have on euro-area yields.

These comparisons qualify a literal reading of Olivera. The data do not reveal one monetary center that dominates every other major center. In particular, the Fed–ECB relationship is close to reciprocal. But they do reveal a hierarchy: Fed and ECB shocks have substantial effects abroad, while BoE and BoJ shocks generally do not. This distinction becomes clearer when geographical reach is considered.

5.5. Global versus regional monetary reach

For each recipient economy, the R^2 of the ten-year-yield regression under Fed shocks is compared with the corresponding R^2 under ECB shocks. The authors' regional classification distinguishes euro-area economies, other advanced economies, emerging Asia, emerging Europe, Latin America and the Caribbean, and other emerging and developing economies.

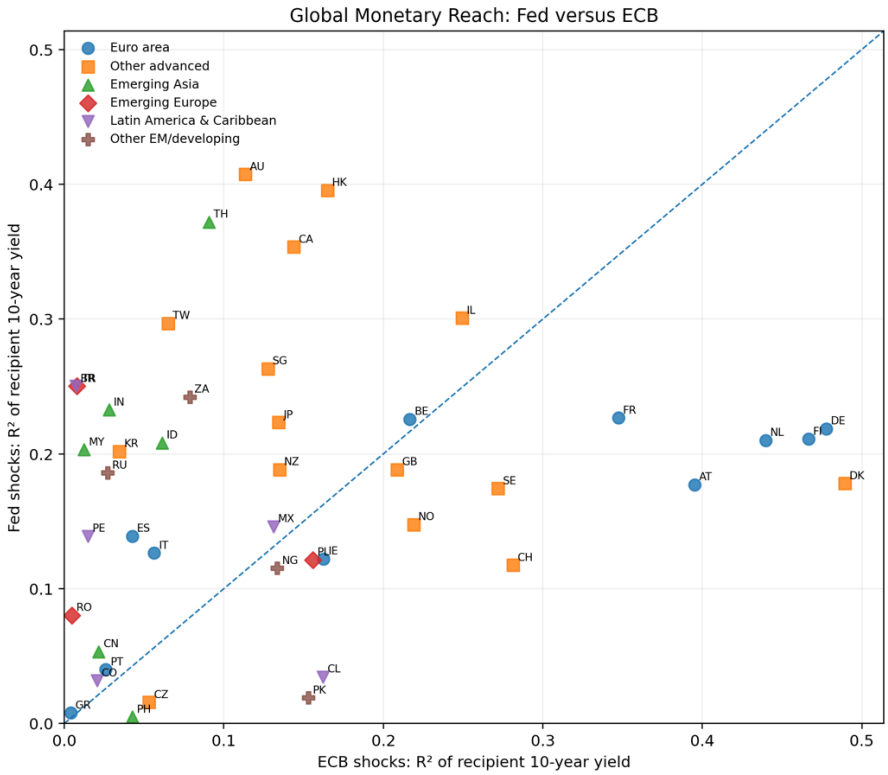
Excluding the United States and euro-area aggregate themselves, Fed shocks explain more of the variation in ten-year yields in every regional group outside the euro area:

Table 4. Fed versus ECB explanatory power by recipient region (R^2)

Recipient region	Fed	ECB
Euro-area national markets	15.5%	**24.0%**
Other advanced economies	**23.0%**	17.9%
Emerging Asia	**17.9%**	4.3%
Emerging Europe	**15.1%**	5.6%
Latin America & Caribbean	**12.0%**	6.7%
Other emerging/developing	**14.1%**	9.8%

The pattern is visible in Figure 1. Countries above the 45-degree line are those for which Fed shocks explain more of the variation in ten-year yields; countries below it are more strongly associated with ECB shocks.

Figure 1. Fed versus ECB global monetary reach



Within the euro area, ECB shocks predictably dominate. Outside it, Fed shocks have greater average explanatory power in every region. Across the 33 non-U.S., non-euro-area recipients for which both estimates are available in the common comparison, the mean $R^2$is approximately 18.6 percent for Fed shocks and 11.6 percent for ECB shocks. The seven-percentage-point difference is statistically significant under conventional paired tests, although those tests should be interpreted cautiously because yield movements across countries are themselves correlated.

The result suggests a distinction between regional monetary leadership and global monetary leadership. The ECB is a powerful monetary center within Europe and exerts substantial influence on several neighboring advanced economies. The Fed's influence is geographically broader, extending more strongly into Asia, Latin America, and other emerging markets.

5.6. Interpretation

The evidence supports a stronger but still qualified interpretation of Olivera's theory. The ACI event study shows that moving to floating was associated, on average, with only a small and heterogeneous increase in short-rate independence while causing a much larger decline in exchange-rate stability; the median MI gain is essentially zero. The Kearns et al. results then show why that measure is incomplete: major central banks retain considerable control over very short-term rates, yet long-term financial conditions are much more exposed to foreign shocks. International influence is also hierarchical, with Fed and ECB shocks far broader than BoE or BoJ shocks.

The hierarchy is not Olivera's strict one-leader system. The euro creates a second monetary center, hegemonic within Europe, while Fed influence is more global. For EMDE the effective constraint may be particularly strong when large dollar-denominated external liabilities are combined with

shallow FX markets, a pattern consistent with the findings of Juselius and Xia (2026). The policy space created by a float therefore depends on currency denomination, market depth, pass-through, and access to local-currency finance—not on the legal exchange-rate regime alone.

6. Conclusion

Olivera's central proposition was that monetary autonomy cannot be distributed symmetrically across an integrated international monetary system. Under passive international money, one country can control the system's remaining monetary degree of freedom and thereby occupy a position of monetary leadership. The other countries face constraints that do not bind the leader in the same way.

The contemporary dollar system provides a possible mechanism for this asymmetry. Internationally usable dollar liquidity is created endogenously through global financial intermediation. Its relationship to the U.S. monetary base can be represented as $G = k\, M_{US}$, where the multiplier k responds to leverage, dollar funding conditions, investors' risk appetite, and financial regulation. Federal Reserve policy strongly influences these determinants without directly controlling the total quantity of international dollar liquidity. This mechanism does not reproduce Olivera's formal monetary leadership theorem, but it gives his concept of monetary heteronomy a contemporary institutional foundation. The issuer of the dominant international currency occupies a different position from countries whose monetary and financial conditions depend on the global availability and cost of that currency.

The original-sin and financial-dollarization literatures add the missing emerging-market dimension. Currencies are not equal in their capacity to denominate liabilities, and depreciation is not a costless shock absorber when balance sheets are dollarized. This helps explain fear of floating

and why a naive inflation-targeting framework can overstate the autonomy available to countries such as Argentina.[5] The issue is not whether inflation targeting can ever work in a dollarized economy, but whether the exchange rate can be treated as a freely available adjustment margin.

The empirical evidence is consistent with this interpretation. Around transitions to floating in eleven EMDE, average ACI monetary independence rises by only 0.08 and the median change is essentially zero, while exchange-rate stability falls by 0.24 on average. Kearns et al. (2023) show that foreign influence is much stronger at the long end of the yield curve than at the short end. The Federal Reserve also has substantially broader geographical reach than the ECB outside Europe. Instrument control and effective monetary autonomy are therefore different concepts.

These results have important policy implications for EMDE. The conventional case for floating cannot rest on the assumption that monetary autonomy is an automatic benefit. For countries with original sin, financial dollarization, high pass-through, shallow FX markets, or heavy dependence on dollar funding, external adjustment may occur through domestic interest rates, reserves, intervention, risk premia, or balance sheets even when the exchange rate formally floats. A hard peg or dollarization is not therefore always superior, but the relevant comparison is no longer rigidity versus autonomy.

Olivera's original and lasting contribution was to show why the international monetary system must be analyzed as a hierarchy of currencies and monetary power. That insight reopens, rather than closes, the fixed-versus-floating debate.

[5] Argentina is a particular case. Not only there is a high degree of financial dollarization but unlike Peru the dollars are accumulated outside the domestic banking system. The dollar in Argentina functions as a safe asset.

References

Aizenman, Joshua, Menzie D. Chinn, and Hiro Ito. 2010. "The Emerging Global Financial Architecture: Tracing and Evaluating New Patterns of the Trilemma Configuration." *Journal of International Money and Finance* 29(4): 615–641.

Bubula, Andrea, and Inci Ötker-Robe. 2002. "The Evolution of Exchange Rate Regimes Since 1990: Evidence from De Facto Policies." IMF Working Paper 02/155.

Calvo, Guillermo A., and Carmen M. Reinhart. 2002. "Fear of Floating." *Quarterly Journal of Economics* 117(2): 379–408.

Eichengreen, Barry, Ricardo Hausmann, and Ugo Panizza. 2003. "Currency Mismatches, Debt Intolerance and Original Sin: Why They Are Not the Same and Why It Matters." NBER Working Paper 10036.

Fleming, J. Marcus. 1962. "Domestic Financial Policies Under Fixed and Under Floating Exchange Rates." IMF Staff Papers 9(3): 369–380.

Gopinath, Gita, Emine Boz, Camila Casas, Federico J. Díez, Pierre-Olivier Gourinchas, and Mikkel Plagborg-Møller. 2020. "Dominant Currency Paradigm." *American Economic Review* 110(3): 677–719.

Gopinath, Gita, and Jeremy C. Stein. 2021. "Banking, Trade, and the Making of a Dominant Currency." *Quarterly Journal of Economics* 136(2): 783–830.

Ilzetzki, Ethan, Carmen M. Reinhart, and Kenneth S. Rogoff. 2019. "Exchange Arrangements Entering the Twenty-First Century: Which Anchor Will Hold?" *Quarterly Journal of Economics* 134(2): 599–646.

Juselius, Mikael, and Dora Xia. 2026. "Monetary Responses to External Shocks in Emerging Market Economies: The Role of Financial Vulnerabilities." *BIS Quarterly Review*, March.

Kalemli-Özcan, Sebnem. 2019. "U.S. Monetary Policy and International Risk Spillovers," NBER Working Paper 26297 (2019), https://doi.org/10.3386/w26297.

Kearns, Jonathan, Andreas Schrimpf, and Fan Dora Xia. 2023. "Explaining Monetary Spillovers: The Matrix Reloaded." *Journal of Money, Credit and Banking* 55(6): 1535–1568.

Klein, Michael W., and Jay C. Shambaugh. 2015. "Rounding the Corners of the Policy Trilemma: Sources of Monetary Policy Autonomy." *American Economic Journal: Macroeconomics* 7(4): 33–66.

Leiderman, Leonardo, Rodolfo Maino, and Eric Parrado. 2006. "Inflation Targeting in Dollarized Economies." IMF Working Paper 06/157.

Leijonhufvud, Axel. 2007. "Monetary and Financial Stability." *CEPR Policy Insight* No. 14, October.

Leijonhufvud, Axel. 2009. "Macroeconomics and the Crisis: A Personal Appraisal." *CEPR Policy Insight* No. 41.

McCauley, Robert N., Patrick McGuire, and Vladyslav Sushko. 2015. "Global Dollar Credit: Links to US Monetary Policy and Leverage." *Economic Policy* 30(82): 187–229.

Miranda-Agrippino, Silvia, and Hélène Rey. 2020. "U.S. Monetary Policy and the Global Financial Cycle." *Review of Economic Studies* 87(6): 2754–2776.

Miranda-Agrippino, Silvia, and Hélène Rey. 2022. "The Global Financial Cycle." In *Handbook of International Economics*, vol. 6, edited by Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff, 1–43. Amsterdam: Elsevier.

Montuschi, Luisa, and Omar O. Chisari. 2016. "En memoria de Julio H. G. Olivera (1929–2016)." *Económica* 62: 3–21.

Mundell, Robert A. 1963. "Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rates." Canadian Journal of Economics and Political Science 29(4): 475–485.

Obstfeld, Maurice, Jay C. Shambaugh, and Alan M. Taylor. 2005. "The Trilemma in History: Tradeoffs among Exchange Rates, Monetary Policies, and Capital Mobility." Review of Economics and Statistics 87(3): 423–438.

Olivera, Julio H. G. 1977. "Autonomía y heteronomía monetarias." *Ensayos Económicos* 4, Banco Central de la República Argentina: 185–196.

Olivera, Julio H. G. 1980a. "Autonomía monetaria, heteronomía monetaria y dinero pasivo." *Ensayos Económicos* 13, Banco Central de la República Argentina: 5–8.

Olivera, Julio H. G. 1980b. "Las categorías monetarias." *Revista de la Universidad de Buenos Aires*, vol. 3 (Homenaje al profesor Rafael Bielsa): 209–223.

Olivera, Julio H. G. 1982. "On Passive Money, Exchange Rates and Monetary Leadership." *Kredit und Kapital* 15(2): 251–258.

Olivera, Julio H. G. 1983. "Dinero pasivo internacional y hegemonía monetaria." *Desarrollo Económico* 23(89): 3–9.

Polak, Jacques J. 1970. "Money—National and International." In *International Reserves: Needs and Availability*, 510–520. Washington, DC: International Monetary Fund.

Rey, Hélène. 2013. "Dilemma Not Trilemma: The Global Financial Cycle and Monetary Policy Independence." In *Proceedings of the Federal Reserve Bank of Kansas City Economic Policy Symposium, Jackson Hole*, 285–333.

Rey, Hélène. 2016. "International Channels of Transmission of Monetary Policy and the Mundellian Trilemma." NBER Working Paper 21852 (2016), https://doi.org/10.3386/w21852.