

The Eurozone Crisis as a Trilemma Forcefield: Fleming, Mundell, and Power in Finance

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ABSTRACT

This paper augments the logic of the Mundell-Fleming policy “trilemma” to offer a novel explanation of the Eurozone crisis. We argue that European recovery measures – banking reform and expansionary fiscal policy - are blocked by a structural lock-in. This lock-in follows from some unrecognized consequences of the European Monetary Union’s solution to the Mundell-Fleming trilemma. First, the Eurozone’s resolution of the Mundell-Fleming trilemma followed Mundell’s approach to the trilemma, and not Fleming’s Keynesian modeling: that is, the Eurozone emphasized pre-determined rules for government behavior and a wide scope for market forces, disciplined by financial flows. Second, the design of the Eurozone paid no attention to the growing power of globalized finance. In consequence, it generated two further trilemmas: one involving bank regulation; the other, bank behavior. In consequence, the Eurozone’s economic architecture precludes adequate bank and financial-market supervision and prohibits lender-of-last-resort (LLR) intervention, even while simultaneously enabling hyper-competition among financial intermediaries. The result is a trilemma “forcefield” that has limited regulatory intervention, failed to rein in bank over-expansion, and required distressed member nations into austerity policies.

Keywords: Mundell-Fleming trilemma, Eurozone, globalized finance, megabanks, power

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1. Introduction

The Mundell-Fleming trilemma has become the workhorse framework for explaining the pressures that cross-border capital flows bring to bear on nation-states. The limiting case, wherein a country cannot simultaneously fix its exchange rate, maintain an independent monetary policy, and be financially open, dramatizes the fact that financial openness forces policy choices. One option, suggested by Mundell himself, is to neutralize possible disruptions from cross-border financial flows by harmonizing exchange rates and monetary policy – that is, creating a customs union.

The Eurozone is a customs union. By the logic of the trilemma, nations within the Euro area should have both freed capital movements inside the area and retained the capacity to manage external cross-border pressures by exchange-rate management. So in a situation of stagnant growth, the Eurozone should be able to adopt anti-austerity policies. But it has not, despite the prodding of the International Monetary Fund (IMF) (Lagarde 2012). Further, since renewed economic growth also depends on renewed bank lending, and since the Eurozone’s member nations regulate banks operating within their borders, they have the capacity to stimulate bank lending – but have not done so.² One explanation offered for these policy failures is faulty political architecture. Rodrik (2011) has argued that the Eurozone confronts a “political trilemma,” in that its member nations cannot simultaneously pursue democracy, national determination, and economic globalization; the Maastricht Treaty makes Eurozone-wide anti-austerity policies impossible. A second explanation is that financial markets pose a decisive barrier to expansionary policies: they would punish Europe if Eurozone members were to force banks to lend or further break fiscal-policy rules to which they are bound by treaty.

Rodrik’s argument does point to a fundamental problem: the Euro area will not survive as a customs union if member nations that experience economic distress have no political means of redressing it. We do not pursue this political-architecture question here, focusing instead on the Eurozone’s economic structure.³ The financial-market uncertainty argument, in turn, runs both ways: irrationally maintaining austerity may lead to more rather than less uncertainty. Further, Eurozone nations have broken the Eurozone’s “Golden Rule” regularly during its entire history (Frankel and Schreger 2013).

This paper augments the logic of the Mundell-Fleming policy “trilemma” to offer a novel explanation about why the Eurozone nations, at either the European Union or nation-state level, have been unable and/or unwilling to address deepening economic stagnation either by implementing new banking measures and regulations or by overturning austerity fiscal policies.

We argue that European recovery measures – banking reform and expansionary fiscal policy - are blocked by a structural lock-in. This lock-in follows from some unrecognized consequences of the European Monetary Union’s solution to the Mundell-Fleming trilemma. This solution prioritized rules establishing limits on government action, at both the member-state and confederation levels, over and against any attention to what markets do – and what they should or could do, especially

² There is an ongoing debate on whether banks’ lack of lending reflects their unwillingness to lend (Steen 2013), the absence of borrowers (Authers 2013), or regulatory shackles (Thompson 2013). The point is that means exist to stimulate renewed bank lending, as recent United Kingdom policies show (Kuchler 2013).

³ It should be noted vis-à-vis the political problematic that those opposed to stimulative policies in Europe’s depressed areas are doing so on the basis of an economic theory.

if given appropriate policy guidance. This outcome parallels a tension in the two original formulations of the trilemma. Marcus Fleming (1962) adopted a Keynesian approach and was more institutionally grounded. Robert Mundell (1963) used more purely theoretical logic and emphasized supply-side considerations, including the view that equilibrating market processes offset government policy changes, resonated more with the equilibrium models that came to dominate macroeconomic theory. And the Eurozone's resolution of the Mundell-Fleming trilemma was Mundellian: pre-determined rules for government behavior and a wide scope for market forces, disciplined by financial flows.

Importantly, though, both approaches to making financial mobility central in macroeconomic policy discourse overlooked crucial developments in global financial markets that were already emerging: the growing Euro-dollar market foreshadowed the steadily increasing autonomy and power of finance in the contemporary era. The design of the Eurozone accommodated the asymmetric power of global finance and thus generated two further trilemmas: one involving bank regulation; the other, bank behavior. In consequence, the Eurozone's economic architecture precludes adequate bank and financial-market supervision and prohibits lender-of-last-resort (LLR) intervention, even while simultaneously enabling hyper-competition among financial intermediaries. The result is a trilemma "forcefield" that has limited regulatory intervention when it was advisable and not reined in bank speculation and over-expansion. This forcefield has passed the costs of resulting bank failures onto member nations, precluding stimulative fiscal policy when and where it has most been needed.

The peculiar structure of banking oversight in Europe has made banking dysfunctionality all but invisible in Eurozone policy discussions. The links between power in finance, banks' excessive risk-taking and the banking system losses that Eurozone member nations must now bear have not been made. For example, Philip Lane (2012) writes: "since banking regulation remained a national responsibility, individual governments continued to carry the risks of a banking crisis: both the direct fiscal costs ... and also the indirect fiscal costs since GDP and tax revenues tend to remain low ... in the aftermath of a banking crisis ..." The behavioral shifts in banking that have prolonged this "aftermath" are not considered; what banks do and do not do now is not part of the Eurozone discussion, despite the fact that dysfunctional large banks exist in virtually every Eurozone nation.

We proceed as follows. Section 2 re-examines the original trilemma and currency-union papers in the context of early-1960s efforts to reconcile foreign-exchange disequilibria and financial openness with the full-employment aspirations of macroeconomic stabilization policy. We highlight key differences in the co-discoverers' approaches to the questions raised. Section 3 shows how the trilemma framework did not account for the implications of growing power in finance, the first manifestation of which in the 1960s was the emergence of the Eurodollar market. An augmentation of the Mundell-Fleming trilemma which accounts for globalized finance is proposed. Financial regulation and banking behavior triads are added so that the impact of financial power can be analyzed explicitly.

Section 4 then outlines the shifts in macroeconomic theory and policy-making between the 1960s and 1990s, as well as the debates preceding the creation of the European Monetary Union. It shows that Mundell's framing of the trilemma, which anticipated the thrust of New Classical macroeconomics, triumphed both as a justification for the emerging IMF approach to exchange-rate crises and as the conceptual framework for the Eurozone. Section 5 shows how the design of the Eurozone, in overlooking asymmetric power in finance, created a trilemma forcefield that undercut financial regulation and pushed banks into hypercompetition. Section 6 then summarizes the Eurozone's unresolvable banking crisis. Section 7 concludes.

2. Fleming and Mundell on financial openness: contrasting trilemma visions

In the early 1960s, Marcus Fleming and Robert Mundell independently formulated ideas that have passed into economic theory as the iconic “Mundell-Fleming trilemma:” the notion that in a world of financial openness, a nation must surrender control over either its exchange rate or its interest rate.⁴ A nation can maintain a target interest rate under conditions of unchecked financial mobility only by letting exchange rates adjust as necessary. Maintaining an exchange rate target, by extension, requires completely passive (or compensatory, so to speak) interest rate policy. A currency union is a special case here: a case of setting an maintaining an exchange rate at par with one or more other national economies. As Mundell (1961) famously argued, currency unions might provide optimal solutions for countries with dense trade relationships and relatively harmonized business cycles; in this case, what were cross-border financial flows become intra-union factor redeployments.

These policy findings represent plausible scenarios for national economic policy responses to cross-border flows of goods and services. Which policy choices are made (open to trade or financial flows or not, and currency unification or not) depends on how the overall role of central governments (nation-state or national region) in economic activity is understood. Two distinct approaches to the role of central governments have arisen: either they should stay out of the way of maximizing agents, or they are crucial for orchestrating and supporting individual agents’ welfare.

Mundell (1997) observed, looking backward as “father of the Eurozone” (Vane and Mulhearn 2006, pp. 99-100), that the general equilibrium lens through which he came to view economic questions provided him with the surest grasp of the issues that concerned him.⁵ But other economists did not and do not share this view, including Fleming himself. We now unfold the tension between Fleming and Mundell, which is consequential not because of technical differences in their models, but because of their contrasting views of the relationship between government policy and social welfare.

J. Marcus Fleming. Born in Scotland, Fleming (born 1911, deceased 1976) and a generation older than Mundell, his second journal article, “Involuntary Employment,” expands directly on Keynes’ aggregate demand model; he argues that government may resort to a “mounting public debt” (Fleming 1935, p. 124) to eliminate long-term (structural) unemployment. He spent the period 1939-51 in UK government service, debating issues with Keynes in two lengthy letters. According to his long-time IMF colleague Jacques Polak, he was a “devoted Keynesian” (Polak 2004). His writing was also invariably institutionally informed. Both of these defining characteristics are on display in a 1952 paper on the prospects for regional organizations, specifically the sterling area and the European Marshall Plan nations. He comments:

“Any attempt to deal with trade and payments problems on a group basis encounters enormous technical difficulties. The handling of the internal relationships of the group raises all the problems of balance-of-payments equilibrium which arise in a world context. And to these are added the problems of the relationships of the group or of its members with outside countries.

“As I see it, the fundamental problem is to find ways of reconciling the domestic policy

⁴ Boughton (2003) verifies the independence of these authors’ original formulations.

⁵ Mundell (1997, page 5) comments: “the choice between fixed and flexible exchange rates is a false and biased way of posing the issue. It presents the false suggestion that flexibility of the exchange rate provides an extra degree of freedom. In a general equilibrium system, there is one degree of freedom.”

objectives of full employment, high investment, and equitable income distribution with the external objective of maximizing the useful interchange of goods and services. In the last twenty or thirty years, this reconciliation has become more and more difficult.” (Fleming 1952, pp. 345-6)

While he seeks a Europe “in which a thoroughgoing liberalization of intra-European trade can be maintained” (*ibid.*, p. 355), this would require additional structural reforms. In his view, “The main weakness of the [Marshall Plan] system was that bilateral surpluses could not, to a sufficient extent, be used to pay for bilateral deficits” (*ibid.*, p. 353).

This concern with global fallacies of composition recurs in the early 1960s as Fleming turns to the problem of capital mobility. The paper in which he sets out his trilemma analysis (Fleming 1962) is a straight-forward exploration of the logical consequences of shifts in budget and monetary policy, given financial mobility, in fixed and floating exchange-rate systems. In Fleming (1963), he elaborates his underlying concerns. He describes his unease with the “new orthodoxy, largely the work of Maynard Keynes .. incorporated into the Articles of Agreement of the International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade (GATT)” (Fleming 1963, p. 461-2). Specifically, “national authorities were to be free to direct their monetary and fiscal policies toward purely domestic objectives which, it was hoped, would be those of maintaining full employment without price inflation.” Fleming’s disquiet is not with these objectives, but with the fact that only secondary attention given to the “maintenance of external equilibrium” (*ibid.*, p. 462), which could be achieved by several means: exchange-rate adjustments; use of foreign-exchange reserves or compensatory official financing; and restrictions on imports or capital flows.

Since exchange devaluation was off the table and international liquidity less than Keynes’ Clearing Union proposal had suggested, “the system was likely to tolerate the perpetuation of disequilibria, and thus to put an undue strain on the remaining instruments of adjustment, ... [especially] import restrictions on balance of payments grounds” (*ibid.*, p. 464). Increased capital mobility, especially growing flows of “hot money,” will heighten balance-of-payments instability. He then agonizes over how to maintain open borders without falling prey to speculation-driven instability – a policy challenge that would be made more difficult by the “increased difficulty, at least among industrial countries, in maintaining an adequate pressure of aggregate demand” (*ibid.*, p. 479).

He concludes this paper by ruminating on the possibility of a European customs union.

“[G]roups of industrial countries that are closely knit, such as that formed by the present members of the European Economic Community (EEC), may tend toward the kind of solution ... in which their mutual exchange rate would be ... irrevocably fixed ... Under this regime, hot money flows between the members of the group would disappear, and funds would move very readily in response to slight interest differentials. Such a system, however, could hardly hope to ensure full employment to all the countries of the group unless the members were prepared to submit to a thoroughgoing coordination not only of monetary, but also of fiscal and possibly wage, policies; unless they were imbued with a solidarity sufficient to induce those with favorable balances of payments to endure some degree of inflationary pressure for the sake of the others; and unless a high degree of mobility of labor prevailed within the group. Here, the maintenance of employment and activity would become, in effect, a collective, rather than a national, function.” (*ibid.*, p. 481)

Robert A. Mundell. This Canadian economist (born 1932) recounts in an autobiographical essay

that his trilemma and currency-union papers were originally included in one essay with what became two other papers; and he comments further that his first trilemma papers were “Keynesian” and his 1963 paper, “classical” (Mundell 2001a, p. 219). Here we analyze all five of these papers in sequence.

In a largely technical exposition within a Keynesian macroeconomic framework, Mundell (1960) shows that under fixed exchange rates, prices move to equilibrate the domestic market and monetary policy is used to maintain foreign balance, while under flexible rates, exchange rates move to correct external imbalances, while monetary policy focuses on “internal stabilization” (p. 228). More audaciously, Mundell (1961b) asserts that the “dogma” of Keynesian employment theory – that is, the idea that policy-makers should “promote investment and exports and inhibit savings and imports” – is invalid in the case of a flexible (and passive) exchange rate. For example, jobs added through investment stimulus will be compensated by jobs lost through reduced exports.

Mundell (1961a) then adds a money market to his system, and shows that Hume’s price-specie mechanism will obtain in a simple equilibrium economy in which the exchange rate is free to adjust: that is, any effort to use monetary policy to affect domestic outcomes will only result in cross-border movements of excess money via a re-equilibration of the exchange rate. Since nation-states are committed to fixed exchange rates, national foreign balances are unbalanced and result in an “international disequilibrium system.” Thus the Keynesian “income-specie mechanism” does not negate Hume’s law, it only displaces it: “central banks do not allow externally-induced gold flows to affect the internal supply of money since that would conflict with the new primary goal of monetary policy; full employment without inflation. The new function of monetary policy leaves a policy vacuum with respect to the balance of payments” (p. 170).⁶

This brings us to Mundell (1961c): “the question then arises whether all existing national currencies should be flexible” (p. 657). He assumes that wages and prices are relatively fixed, in a stripped-down equilibrium setting, and shows that exchange rates can remain fixed:

“if each nation (and currency) has internal factor mobility and external factor immobility. But if labor and capital are insufficiently mobile within a country then flexibility of the external price of the national currency cannot be expected to perform the stabilization function attributed to it, and one could expect varying rates of unemployment or inflation in the different regions. Similarly, if factors are mobile across national boundaries then a flexible exchange system becomes unnecessary, and may even be positively harmful...” (664)

This paper then suggests optimum currency areas may arise; for example, “The question thus reduces to whether or not Western Europe can be considered a single region, and this is essentially an empirical problem” which factor mobility can answer in the affirmative.

Mundell considers his 1963 paper to be “the *locus classicus* of my half of the Mundell-Fleming model,” which he argues was a response to “an attack on my paper” by the Federal Reserve, in which he “decided to reply by upping the ante” (Mundell 2001a, pp. 222-3) and assuming perfect capital mobility, wherein all securities are perfect substitutes. In this setting:

⁶ Mundell’s monetary approach here draws from the “currency school”; by contrast, Fleming’s monetary writings take a “banking school” approach, wherein credit drives money (see Fleming and Boissonnault 1961).

“a country cannot set an interest rate different from the general level prevailing abroad. This assumption will overstate the case but it has the merit of posing a stereotype towards which international financial relations seem to be heading. ... [this] is not far from the truth in those financial centres, of which Zurich, Amsterdam, and Brussels may be taken as examples, where the authorities already recognize their lessening ability to dominate money market conditions ... It should also have a high degree of relevance to a country like Canada whose financial markets are dominated to a great degree by the vast New York market.” (Mundell 1963, p. 475)

This model then shows that “monetary policy under fixed exchange rates becomes a device for altering the levels of reserves, while fiscal policy under flexible exchange rates becomes a device for altering the balance of trade, both policies leaving unaffected the level of output and employment.” (*ibid.*, p. 484)

Mundell’s articles are different in style and focus from those of Fleming: he explores abstract possibilities with fewer institutional roots than does Fleming. And while Mundell uses the veneer of Keynesian models, in his own words, “my approach came through a Walrasian-like general equilibrium theory” (Mundell 2001a, p. 217). For example, his focus on *locus classicus* is evident when he brings “supply conditions” – “whether or not firms are prevented from maximizing profits and whether or not workers are impeded in their pursuit of maximum utility” (Mundell 1964, p. 301) into a “Keynesian System.”

In sum, in Mundell’s vision, both the trilemma and currency union scenarios are drawn from a world in which capital mobility and exchange rate policy are important tools for partially overcoming the distortions in prices that are caused by the existence of national borders, especially for economic areas that lack the ability to set prices. Analytical focus centers on factors affecting supply, and especially on the interest rate (which proxies for the required return on capital). If the interest rate is set at an initially wrong level in a subarea of a larger space, capital mobility can shift the “supply of capital” until marginal returns are equalized across space. Exchange-rate shifts can be used to adjust the effective price of factors of production; but using the exchange rate to adjust prices is at best a crude tool. Capital mobility guarantees maximally-feasible economic efficiency in a world of price rigidities and national and regional borders.

While this endpoint is sometimes dressed in Keynesian clothes, the contrast with Fleming’s open-economy Keynesian framework is clear. Fleming himself observed, in a wry 1967 comment on a playful paper by Mundell: “... On the whole, what strikes me most about Mundell's Zen is its similarity to that of the Ancient Worthies, the early patriarchs, with its lesson of wu-wei, or laissez faire. It is clear that the tea he wants us to empty out of our cups is the tea of that un-Zen-like activist, Maynard Keynes” (Fleming 1967, p. 468).⁷

3. From the Euro-dollar market to financial deregulation: An augmented trilemma

As two of the first explorers of the implications of cross-border financial mobility, what Fleming and Mundell missed is as important as what they found. Neither mentions the Euro-dollar market

⁷ Mundell (1967) began a conference paper with a story about a zen master, evoking this response from Fleming, a devotee of Buddhism: “Professor Mundell begins, with the self-confidence of a true Zen master, by telling us to empty our cups of all we thought we knew about international monetary economics in order to receive the milk – or rather the green tea – of the true doctrine. Before accepting this somewhat Messianic claim, however, and bending our heads meekly to receive the thwacks of his mathematical ‘hossu,’ we ought, I think, to ask ourselves the question, ‘What is so special about Mundell's Zen?’” (Fleming 1967, p. 463)

– the “stateless money” (Machlup 1970) that was already emerging as these authors wrote their trilemma papers. Between 1961 and 1965, the IMF’s Oscar Altman published four *IMF Staff Papers* articles on the Euro-dollar market, exploring its emerging institutional structure. He found its impact to be benign, in that it conferred mutual advantages to those supplying and demanding these funds, and “is important in bringing the national markets together” (Altman 1964, p. 13).⁸

Benjamin Cohen (1963) took a more nuanced view.⁹ He observed that the six-member European Economic Community, while in a customs union since 1958, had not moved toward a common currency not only because of reluctance to surrender control over monetary policy, but also because the emerging Eurodollar market already provides “the European Community (and the entire Atlantic Community) with some of the benefits of a *de facto* common currency.” (Cohen 1963, p. 606). The need to unify diverse currencies is retarded by the Euro-dollar market, which provides “large holdings of generalized claims and .. an integrated money market ... within each country ... [via] a common currency, which removes all exchange risks” (*ibid.*, p. 610) In effect, “the Euro-dollar has become something akin to a common international currency for the principal industrial countries.”

But this “success ... is not without its price. ... Already the partner central banks are discovering that it is sometimes quite difficult to make large changes in monetary policy ... A central bank that raises interest rates to restrict domestic spending often finds that it has instead brought about a large-scale capital inflow which increases bank liquidity and expands domestic credit” (*ibid.*, p. 613). Further, the six central banks find it difficult to coordinate policy, because they meet at Basle as part of the Atlantic Community; and “To the extent that international monetary co-operation is effective, therefore, it poses a threat to the joint monetary independence of the Six” (*ibid.*, p. 614).¹⁰

Cohen’s narrative identifies some of the first implications of an emerging period in which un- or under-regulated finance escapes the control of national regulators. A wide-ranging transformation of the macroeconomic environment was soon underway. The Bretton Woods system of fixed exchange rates with a dollar-gold linkage fell apart in 1971-73. Floating exchange rates became the norm, bringing the 1960s debates over exchange-rate systems and currency unions into sharper focus. More broadly, the 1970s brought a high inflation rate, supply side shocks, stagflation, spiking interest rates, banks’ loss of deposits to new funds, and finally Federal Reserve chair Volcker’s aggressive monetary policy. The elections of Margaret Thatcher as UK Prime Minister (1979) and Ronald Reagan as US President (1980) brought in the era of neoliberalism. Many defining characteristics of the post-War “golden age” in the global North (Marglin and Schor 1992) – extensive social safety nets, labor-management peace in exchange for high wages in Northern manufacturing hubs; closely regulated banking and financial markets – were ground down.

Sharp systemic financial crises linked to unstable cross-border lending and investment flows afflicted Latin America in the 1980s, and then East Asia and again Latin America in the 1990s (Dymski 2011a). Aggressive financial deregulations were undertaken throughout the world: savings and lending markets were opened to competition, public banks were privatized, the entry of foreign banks and financial firms was eased, and limitations on permitted bank activities were

⁸ Altman’s three earlier publications on the Euro-dollar market are cited in footnote 1 of his 1964 article.

⁹ Linder and Cohen (1964) challenged the conclusion of Mundell (1961a) by demonstrating six ways in which “national authorities [can] ... initiate countervailing balance-of-payments disturbances”; among them, creating customs unions.

¹⁰ The term “Atlantic Community,” no longer in use, referred to the global-North nations bordering the Atlantic. It was a term of choice for “rationalizers of the American interest.” (Richardson 1964, p. 5).

eliminated, most notably with the US's 1999 repeal of the separation between commercial and investment banking.

The mobility, size, and complexity of globalized finance exploded. In the 1960s, it was on the margins of the financial management of nation economies: Euro-dollar operations disrupting central-bank targeting. By the end of the 1990s, the extensive operations of large multinational financial firms (hereafter, megabanks), increasingly orchestrated through a shadow banking system with which they were intertwined (Cetorelli and Goldberg 2011), were reinventing a large portion of what had been binary creditor-debtor relations as multi-party components of a highly leveraged financial cloud. The very interrelatedness, lightning volatility, and opacity of this megabank-organized system conferred it immense power over domestic economic policies and cross-border flows. Megabanks' centrality in global finance did not come about despite governmental opposition; to the contrary, it was the result of government policy (Dymski 2011b, 2011c). In this new global terrain, nations and regional compacts had to prove their fitness as viable sites for real and financial investment flows.¹¹

These developments make it clear that while financial openness was envisioned as one point of a triangular set of policy choices in the early 1960s, it has come to have a much more profound cumulative impact on the very nature of government policy choice, much less regulation. To grasp the evolving relationship between state policies and globally mobile finance, then, requires augmenting the Mundell-Fleming trilemma. Our starting point is to remember a first principle: any sovereign state (or state coalition) decides monetary and exchange-rate policies because it is responsible for "stabilizing and regulating the macroeconomy" (Drazen 2000, p. 678). At a minimum, this mandate includes maintaining an adequate degree of stability in the currency that residents use in their economic transactions, and in the financial system that creates credit claims enumerated in that currency. A state that cannot maintain stability in the financial sphere will not long survive as an autonomous state.

This mandate, in turn, has two elements. It requires insuring that the financial system performs its economic functions: to serve as a store of financial wealth, to provide means of exchange and payment, to supply productive credit, and to insure against risks insofar as it is possible. Productive credit can be defined as credit that supports households' security and consumption needs and that facilitates the creation, operation, and expansion of employment-generating enterprise.¹² Regulation is necessary to ensure that the member institutions or individuals do not undertake activities that generate returns but threaten systemic integrity or functionality of the system of finance.¹³ Especially intensive regulatory oversight is applied to those financial institutions (depositories) that have the ability to create credit by issuing deposits, since this process of endogenous money creation is at the core both of maintaining financial stability and of maintaining public confidence in the safety and soundness of depository institutions. Maintaining public confidence and system coherence, in turn, may occasionally require that the system regulator undertake "lender of last resort" action to protect against collapse (Minsky 1986, chapter

¹¹ Financial markets' power over governmental policies was highlighted by the failure of President Clinton's healthcare-reform initiative in 1994, an event which led aide James Carville to quip that he wanted to be reincarnated as the bond market because "You can intimidate everyone" (quoted in Greenwald 1994).

¹² This definition is rooted in the developmentalist view of finance set out by Schumpeter (1983, Chapter 3).

¹³ Predatory loans and proprietary equities trading by financial intermediaries might be cited as examples of dysfunctional financial practices.

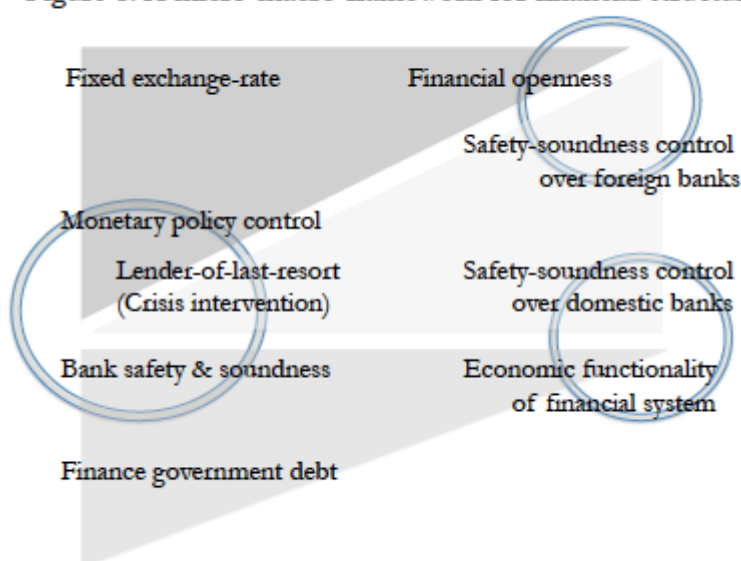
3).

These ideas about effective financial regulation and functional finance can be depicted as two triads:

The banking regulation triad – financial regulators seek control over the actions of domestic banks, and over foreign banks operating domestically; and they require the means to provide LLR support in periods of crisis.

The bank-behavior triad – banks’ role in the broader economy is to perform economic functions, help finance national government, and maintain safety and soundness. As noted, banks’ economic functions are to provide transaction services, supply productive credit, and manage financial risks.

Figure 1: A micro-macro framework for financial structure



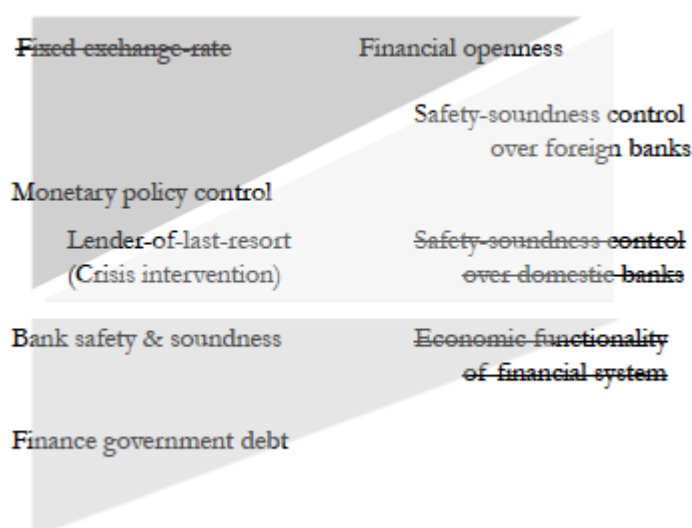
In the first triad, we separate the tasks of regulating foreign and domestic banks; in the second, we add the financing of state debt to the functions of banks. Both augmentations will be helpful in discussing the Eurozone case. Figure 1 sets out a visual representation of these two triads, which matches them with a visual depiction of the Mundell-Fleming macroeconomic-policy trilemma. Several of the points of these three triangles are placed in proximity to illustrate some of the critical linkages between macro and micro aspects of financial structure. Three connections are circled. One is the nexus between monetary-policy control (a macrostructural decision), LLR capacity (a regulatory capacity), and domestic banks’ safety-and-soundness (a behavioral concern for financial intermediaries). The second is the nexus between financial openness (a macrostructural decision) and regulatory control over foreign-bank activity (a regulatory capacity). The third is the nexus between regulatory control over domestic banks’ safety-and-soundness and their economic functionality (the provision of transaction services and productive credit). These connections are critical because choices at one level determine capacity or incentives at the next level.

The augmented trilemma shown in Figure 1 makes visible the implications of growing power in finance. Four kinds of power relationships in finance can be identified: exit-power, wherein only one party in a financial relationship can exit it without loss; private knowledge that affects

outcomes for all parties in a relationship, but is held by only one; network power, wherein one party controls access to the partners required to complete a financial transaction; and asymmetric resilience, wherein one agent has a greater ability to suffer losses or to renew resources (Dymski 2011d).

Megabanks have accrued all four categories of power in the neoliberal era. This accrual of power is especially – and not coincidentally – strong in the case of US megabanks. The growing weight of US megabanks’ share of financial markets illustrates their exit-power; the transformation of money markets into leveraged interest-rate swaps and overnight-RP exchanges, the power of private knowledge; the rise of “originate-to-distribute” lending, their network power; and their protection under too-big-to-fail BTF criteria in the 1980s and 2000s, their asymmetric resilience. These sources of power, combined with these megabanks’ extensive influence over the formation of national financial policy (Dymski 2011c), have put even the US government, the ostensible world hegemon, at a power disadvantage in terms of effective policy control over finance.

Figure 2: US augmented trilemma policy in the neoliberal era



It will be useful to spell out the US’s resolution of the augmented Mundell-Fleming trilemma in the neoliberal era at this stage of our argument. Figure 2 shows first that the US resolves the Mundell-Fleming trilemma by permitting exchange rates to float. Its unchallenged monetary-policy and LLR capacity are combined with its commitment to financial openness; the latter involves a reluctance to regulate foreign banks, and a programmatic commitment to deregulation of domestic banks. The extensive financial deregulation noted above has led to inattention to whether the US banking system is economically functional, on the part of both financial regulators and financial intermediaries. The US’s superior LLR capacity, due to its monopoly over the world’s principal reserve currency, has its financial deregulation and consolidation path throughout the neoliberal era (Dymski 2009). This path has involved persistent encroachments into overseas markets and the creation of new instruments that have transformed global practices, including subprime lending. It constitutes the context for the Eurozone formation process, which came to an end just as the subprime market was ready to mature.

4. Mundell, the macroeconomic revolution, and the creation of the Eurozone

The period during which the architecture of the Eurozone was proposed and debated was characterized not only by global financial deregulation, but also by a revolution in

macroeconomic theory and in macro-policy-making. Beginning in the late 1960s, a series of theoretical advances in close succession – the rational-expectations hypothesis, Ricardian equivalence models, overlapping generations models, and real business-cycle theory – undercut the premises of the structural Keynesian models that had constituted the post-war “orthodoxy” (Dymski 2013). This extended methodological revolution re-centered macroeconomics, removing Keynesian aggregate-demand from its once-central role. Macroeconomic theory no longer was understood as a tableau for choosing among different governmental strategies for achieving stabilization and high employment; it now involved an exploration of the properties of multi-period utility maximization. Macroeconomic policy, in turn, shifted toward long-run considerations, typically examined in the context of dynamic general equilibrium models analyzing representative agents in stochastic environments. In this theoretical and policy landscape, Keynesian considerations, reduced to informational or transaction-cost frictions preventing agents from attaining first-best equilibria, maintained at best a foothold.

As classical features such as forward-looking expectations and explicit modeling of the supply-side first adorned and then replaced Keynesian frameworks, Keynesian/classical tensions like those between Fleming’s and Mundell’s open-economy ideas were largely resolved on classical terms. A perspective in which economic actors turned to the market to discipline state excesses replaced one in which those actors needed the state to stabilize markets. This shift was ready-made for the intellectual turn that Mundell had been navigating from his earliest work. Consider this passage in Obstfeld’s 2001 analysis of international economics “beyond the Mundell-Fleming model”:

“In a path-breaking series of articles, Mundell took up the challenge ... that Meade’s omission of dynamics had left. By so doing, he reintroduced the idea of a self-regulating adjustment mechanism that had been central to the Classical framework. In line with the evolution of world financial markets ... Mundell put international capital flows at center stage in his dynamic analysis. Had his achievement been entirely technical, it might have had little impact. Instead, through a rare combination of analytical power and Schumpeterian ‘vision,’ Mundell distilled from his mathematical formulations important lessons that permanently changed the way we think about the open economy.” (Obstfeld 2001, p. 5)

Tellingly, Obstfeld looks past Mundell’s use of static, non-microfounded formulations, and categorizes his articles as sharing in the dynamic approach on which New Classical macroeconomists came to insist. Equally telling is Fleming’s absence from this encomium.¹⁴ Mundell himself (1997, 2001) has pointed out how his 1960s papers foreshadowed the policy and theoretical insights of the new equilibrium-based macroeconomics. Indeed, the Mundell-Fleming trilemma has provided the structure logic of the adjustment policy packages implemented under IMF guidance throughout the developing world.¹⁵ Given that the IMF insists on flexible exchange rates and financial openness – both to reopen the financing channel and to discipline domestic capital markets, this means using monetary policy to discipline prices and credit creation processes. And Mundell (1968), building on the price-specie model in Mundell (1961a), helped establish the “monetary approach to the balance of payments” model, which provided an

¹⁴Mundell has a lengthy Wikipedia entry (http://en.wikipedia.org/wiki/Robert_Mundell). By contrast, Fleming’s Wikipedia entry (http://en.wikipedia.org/wiki/Marcus_Fleming) is a stub, whose brief narrative concludes: “today’s textbooks refer to the Mundell–Fleming model. Mundell’s contribution, which assumes perfect rather than imperfect capital mobility is, however, considered more important due to its depth, range, and analytical power, and more applicable to today’s conditions.”

¹⁵ According to Mussa and Savastano (1999), the IMF had 615 separate arrangements with 126 developing countries between 1973 and 1997.

intellectual basis – if a controversial one – for Fund programs.¹⁶ This model, while internally inconsistent and institutionally unfounded, played a key role in IMF interventions because of its larger import (Lanciaux 1990): markets must be open to be disciplined.¹⁷

The exchange rate-versus-price flexibility question that had arisen in the foundational Mundell-Fleming literature came back into focus as well. As Obstfeld (2001) notes, 1980s open-economy models anticipated that increasing international integration – the global factory – would force prices to converge, rendering efforts to use exchange rates as policy instruments atavistic. But as he observes, this anticipated convergence did not occur; in effect, the notion that exchange-rate fixity and capital mobility inside a bounded area could be used to optimize resource use remained.¹⁸

This brings us to the Eurozone. As we have seen, between Fleming's effort to place capital mobility into a Keynesian framework, and Mundell's quasi-Walrasian reinterpretation of open-economy macroeconomics, Mundell's approach won out at the level of both theory and policy. That this victory for Mundell's vision occurred in a period of expanding financial mobility, increasing volumes of 'stateless money,' and frequent global-South financial crises was no coincidence.

The arguments for a European Monetary Union emerged in this new financial world. Indeed, Mundell developed an argument for a Europe-wide currency in 1969, while the Bretton Woods system remained in place, which singled out the threat to European monetary sovereignty posed by the growing Euro-dollar market, and which observed that a European currency "would ensure protection against disturbances arising in a world in which big companies, big labor unions and large international banks can threaten the viability of the national currency" (Mundell 1969, p. 6).

Once the fixed-exchange-rate Bretton Woods system collapsed, European nations were in a fix. Trade interlinkages and geography bound them together, but Germany's Deutschemark and current-account balances kept gaining on other European nations (Marsh 2011). A common currency was one way to resolve this tension; another was continual exchange-rate adjustments. But as Wyplosz (1997) pointed out, "The perception is that markets are too integrated to allow for sizable relative price changes. The exchange rate and trade wars from before World War II are still remembered as an example of a jack that must absolutely be kept in the box."

Factors other than trade imbalances mitigated against a common currency. The European Union and its predecessor the EEC always veered close to political impasse (Marsh 2011); adopting a common currency without political consensus (Fleming 1963, Rodrik 2001) and without a solid fiscal transfer mechanism (Fleming 1963) was an invitation to disaster. Feldstein (1997) noted that the proposed Eurozone met only one of Mundell's four criteria for a successful customs union – a mobile labor force; it failed the other three: it had a relatively homogeneous economy (heterogeneity assures that shocks do not have uniform effects); domestic prices and wages were not flexible; and there were minimal fiscal transfers across European nations' borders.

¹⁶ Polak's history of Fund programs (1998) explains that the simplicity of the IMF approach was driven initially by data restrictions; but from 1957 onward, the focus fell on the "balance of payments effects of credit creation by the banking system" (p. 395), since this was a variable the authorities could control.

¹⁷ Interestingly, Polak (2005), long-time IMF research director, echoes the divergence between Fleming and Mundell noted here in insisting that the IMF's "monetary approach to the balance of payments" retained a Keynesian character, unlike the "Johnsonian" (Chicago) version that Mundell (2001a) helped inspire.

¹⁸ Note that this shift from insistence on flex-price models to fix-price models parallels the shift from the purely New Classical models of the 1980s to the Keynesian-Classical "consensus" models of later years.

Wyplosz replied to Feldstein by noting, “The choice is not between EMU and heaven. It is between EMU and freely-floating exchange rates, with possibly poorly coordinated monetary policies, within an area gradually becoming as tightly integrated as the United States” (Wyplosz 1997, p. 10). Further, the European Central Bank (ECB)’s constitution made it more independent and more focused on price stability than the Federal Reserve; so “Europe’s economy will be more stable than Germany’s” (*ibid.*, p. 15). Mundell (2001b) argued that the criteria he had proposed in 1961 were trumped by the “power configuration of the world economy”; refraining his 1969 theme, the US should welcome an opportunity to share its global currency leadership with Europe. Mussa (1991) provided an IMF seal of approval, emphasizing economic criteria – the advantages of unified monetary policy under a Bundesbank-like central bank focused on price stability, and the fiscal discipline that follows once nations could no longer print their own money.

Another push factor was provided by the contrast between the higher growth rates of the more liberalized United States economy and the lower growth of a Europe afflicted by “Eurosclerosis” (Giersch 1985). The market liberalizations that defined the neoliberal era seemed to work, and the “great moderation” (Stock and Watson 2002) seemed proof that the time-consistent, long-term, agent-based models that had moved to the fore in macroeconomic theory (Woodford 2003) were well-adapted to the challenges of the age.

The Delors Commission report (1989) pushed the common currency forward. It observed that “Greater convergence of economic performance is needed” as is “more intensive and effective policy coordination” (p. 11). The union should encompass “a large degree of freedom for market behavior” (p. 17), while also supplementing whatever discipline market forces could provide: “Financial markets, consumers and investors would . . . penalize deviations from commonly agreed budgetary guidelines or wage settlements, and thus exert pressure for sounder policies.” But since access to markets can “even facilitate the financing of economic imbalances,” and thus “The constraints imposed by market forces might either be too slow and weak or too sudden and disruptive”, member nations would “have to accept that sharing a common market and a single currency area imposed policy constraints” (p. 20). Installing an independent central bank and establishing “the full liberalization of capital movements and financial market integration” (*ibid.*, p. 16) before exchange rates are fixed would make it feasible to coordinate monetary policy across all banks and the entirety of the Euro area. So as in Mundell (1963), making capital completely mobile would lead to welfare-improving equilibria.

As the Delors report shows, the design of the Eurozone was based on the dual premise that capital is scarce and globally mobile, and will be attracted to ports of call where it has fewest constraints on its movements (Dymski 2011). The framework put in place conformed to the policy views of the Classical mainstream view. As Chari and Kehoe (2006) put it:

“the practice of macroeconomics by economists have changed significantly—for the better. Macroeconomics is now firmly grounded in the principles of economic theory” [specifically] . . . a “commitment regime . . . [wherein] all policies for today, tomorrow, the day after and so on, are set today and cannot be changed” (p. 6). . .

“We think of commitment as a situation in which at the beginning of time society prescribes a rule for the conduct of monetary policy in all periods. The monetary authority then simply implements the rule. . . . The message . . . is that discretionary policy making has only costs and no benefits. . . . [One possibility] is to delegate policy to an independent authority” (p. 7)

Not surprisingly, these authors have glowing words for the Eurozone: “Perhaps the most vivid

example of both the movement toward independence and the movement toward a rule-based method of policy making is to be found in the charter of the European Central Bank ... [whose] ‘primary objective’ is ... to “maintain price stability.” This focus on stability and credibility was reinforced by Issing (2001) and his insistence that a uniform monetary policy across the zone (“one size fits all”) would encourage convergence; it was seemingly guaranteed by the fact that the ECB was designed as a virtual duplicate of the Deutsche Bundesbank (Lohmann 1994).

So the European Commission’s plan for the ECB forgot Minsky (1986), and forgot that even for the globally-hegemonic United States during the “golden age of capitalism,” periodic financial-market malfunctions that caused so little damage – as “credit crunches” – precisely because of timely central-bank interventions (Wojnilower 1980). The notion that the ECB would lack LLR powers was greeted with incredulity by economists with central-banking experience. As early as 1992, Folkerts-Landau and Garber (1992) warned that the “narrow” approach being taken would make it necessary “to slow or even prevent the ongoing development of Community-wide liquid, securitized financial markets” (p. 1). Goodhart (1999) pointed out the impossibility of dispensing with the LLR function. Blinder (1999) critiqued the ECB plan’s New Classical emphasis on credibility by asking central bankers about it, and summarizing their answers: “Respondents think central banks get their credibility the old-fashioned way: They earn it by building a track record, ... not by limiting their discretion via commitment technologies or by entering into incentive-compatible contracts” (p. 21-22).

Nonetheless, the Euro was launched in January 1999.¹⁹ The ECB responded to critiques of its architecture by establishing several initiatives – such as the Financial Services Action Plan (1999) and the Committee of Wise Men (2001) – that would more closely harmonize European financial markets (Hartmann, Maddaloni, and Manganeli 2003). These did not mollify analysts worried that ECB jurisdiction would be inadequate in a crisis, such as Dominguez (2006) and Schinasi and Teixeira (2006). The latter two IMF economists recommended the “centralization, or rather the federalization, of financial stability functions”, observing that “given the decentralized banking supervision and financial market surveillance, it may prove difficult to work out responsibilities on an ad-hoc basis in the midst of a crisis” (pp. 21-22).

5. Trilemma forcefields: power in finance in Eurozone architecture

We can add to the doubts raised above about the absence of LLR powers for the ECB by focusing in on the design flaw highlighted in section 3: inattention to the consequences of the asymmetry between unaccountable finance and the powers of the regulatory authorities tasked with maintaining (or, after a crisis, restoring) a productive financial system. As we have seen, this inattention was grounded in a view of financial markets as competitive arenas that would discipline the spending of governments that were not very good at following their own rules (Frankel and Schreger 2013). However, the augmented Mundell-Fleming analysis developed above shows that the financial architecture of the Eurozone would be unviable even if the ECB were provided with LLR powers.

¹⁹ Spolaore (2013) argues that the European Commission leadership calculated that an imperfect union would generate pressures toward constructing a more thorough and consistent common regime.

Figure 3: Bank regulation dilemma in Eurozone design

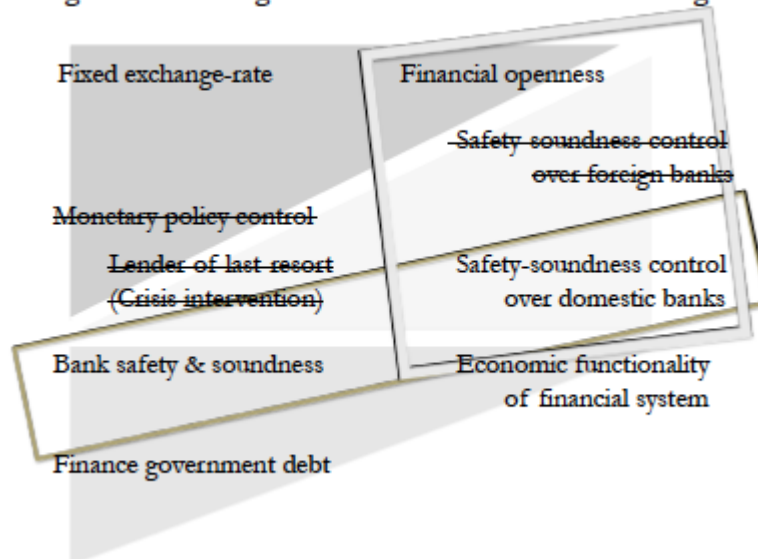
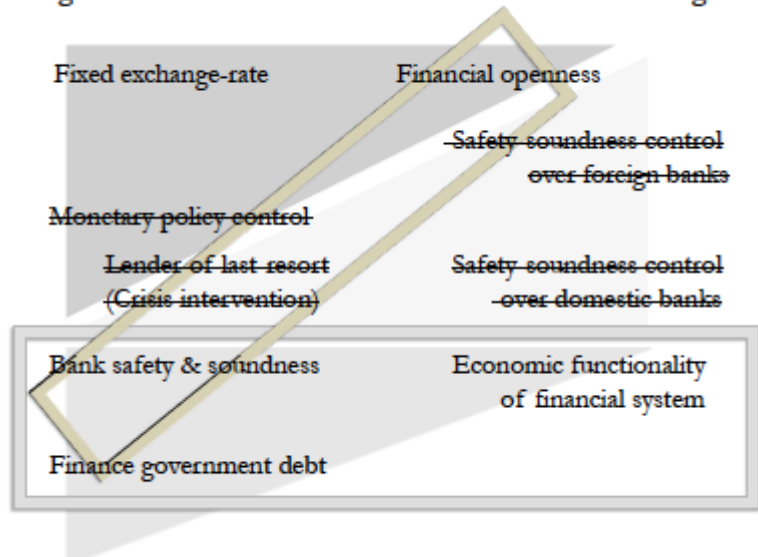


Figure 4: Bank behavioral dilemma in Eurozone design



To see this, we return to Figure 1. The choices made in structuring the Eurozone force some choices at each triad level. Figure 3 depicts the situation for the scope of financial regulation in any one member country. As discussed above, the element of the macrostructural triad that is sacrificed by member nations is monetary policy control. At the regulatory level, this eliminates the possibility of LLR interventions (at the member nation, not the Eurozone, level); the regulator cannot, per Minsky (1986), print money limitlessly in crises to calm panics. The Eurozone members' commitment to the "one market" principle, which was inscribed in a policy document (Commission of the European Community, 1990) and written into the Maastricht treaty (Spolaore 2013), takes another regulatory triad element off the table – control over foreign banks. Financial services offered anywhere in the Euro area can be offered everywhere within it.

This structure leaves national bank regulators with control only over domestically chartered banks. And this poses a bank regulation dilemma. Of course, regulators are able to maintain strict safety-and-soundness controls over domestic banks. But so doing – curtailing their leverage, forbidding the purchase of securitized instruments, restricting over-the-counter derivatives

trading, etc. – would compromise domestic banks’ capacity to succeed in the competition for global financial business. Given that member nations had already substantially deregulated their financial markets, and that the City of London sits on Europe’s doorstep, European regulators have opted for permissiveness.²⁰

This resolution of the Eurozone’s bank-regulation dilemma, in turn, created a bank behavioral dilemma. Banks in Eurozone countries were faced with foreign competition, especially in esoteric reaches of the financial markets; and they were increasingly facing competition from other domestic competitors. Throughout Europe, banks undertook defensive mergers so as to survive the opening of the “one market,” in advance of the Euro; they also entered other national markets, usually via acquisitions (Dymski 2012). This, however, left banks with a behavioral dilemma, shown in Figure 4: undertake the steps necessary to compete successfully in global and/or in domestic financial markets; or focus on maintaining safety and soundness. Choosing to compete either in global or domestic markets pulls a bank away from conservative policies. So banks across Europe took on more leverage, more off-balance sheet commitments, and more risk. All these shifts made crisis more likely; the effect was of a forcefield pushing in one direction, with little or no resistance. And meanwhile, the national regulatory authorities (including the national central banks) that would have to manage these crises no longer had the LLR capacity with which to counter them. When the 100-year-flood came, regulators would have to rely on other tools (such as recapitalization).

If we turn from the member-nation level to the ECB’s perspective on the augmented Mundell-Fleming trilemma, a strange picture emerges. The ECB has no control over foreign or domestic banks, and lacks LLR capacity. It has no stake in maintaining safe-and-sound or economically functional banking systems at the member-state levels. It has observer status, but is not a participant, except for presumably setting (and policing) price-level targets. And the logic of this limited function depends, in turn, on the dubious premise of a stable Eurozone money-price relationship.²¹

In sum, in the EU, the regulatory layer that should exist between fully-mobile global financial flows and the domestic banking system has been disabled through an architectural flaw. The origin of this flaw is the working assumption that access to (scarce) foreign financial capital is crucial, and openness to this capital will both discipline domestic banking and ensure prosperity.

6. Europe’s banking-crisis lock-in

In the early years of the Euro, financial integration in Europe increased, as measured by higher levels of interbank lending and securitization, by narrowed interest-rate differentials, and by the larger deficits being run by the poorer nations:

“Prior to European monetary union, investors would typically have required larger country risk premia to fund such deficits, and the risk of a speculative attack on a debtor’s currency would have increased. However, these countries are now largely insulated from such pressures. In effect, claims on other euro-area members are increasingly viewed as good substitutes for claims on domestic parties” (Lane 2006, p. 55).

²⁰ Deregulation took many different forms in Europe, depending on each nation’s inherited structure of intermediation and regulation. For example, Spain freed its two large banks to compete globally and opened up domestic market competition to its cajas.

²¹ Issing *et al.* (2001) found European money and price levels to be closely correlated prior to the launch of the Euro; subsequent experience, especially after 2008, suggests this may no longer be the case.

Simultaneously, however, the elements for a banking crisis were being put into place in Europe, as they were in the US and UK. In the US, megabanks were at the heart of US subprime lending: the creation, bundling, and selling of loans whose viability depended on sustaining unsustainable price increases in the housing market was refined into a high art by the time housing prices fell (Dymski 2011a). The UK had its own plunge into subprime lending and megabank over-expansion. Many European megabanks, eager to compete head-to-head across the landscape of esoteric finance, were pulled along by US and UK megabanks' momentum into speculative position-taking, improbable mergers, and risky cross-border lending, especially for residential and commercial real estate. In terms of subprime lending per se, some European banks were disadvantaged by domestic rules on bankruptcy and default that precluded securitization; but many – especially the large ones – compensated for this disadvantage by taking positions in securitized loans originated in the US and UK subprime markets.

But then the subprime crisis hit: first the asset-backed commercial paper market collapsed in September 2007 with Northern Rock's failure; then came the massive insolvencies of the US and UK megabanks in the wake of the collapse of their national housing bubbles. Initially, the subprime crisis hit European banking selectively: Fortis and Commerzbank and Germany's *Landesbanken* fell into insolvency due in large part to their holdings of subprime loans. However, these cases were swiftly resolved via fiscal (taxpayer) injections and asset fire sales. Europe's banking system as a whole – aided by the opacity of their balance sheets – was only selectively damaged in the crisis.

As the Greek crisis unfolded beginning in late 2009, however, the situation took a sudden and dramatic turn for the worse. Pressures converged from four sides on European banking: the markets became aware that Greek banks were loaded with previously undeclared bad loans; they learned that Greece had a much larger net sovereign debt position than had previously been declared; they observed the hesitant response of the ECB to the worsening situation (in contrast to the aggressive actions taken early by the US and UK central banks); and European banks' opacity fed market participants' fear and uncertainty. Markets that had been eager to support larger and ever more adventurous combinations of megabanks turned against Europe – its money markets froze and its central banks and the ECB came under blistering scrutiny.

In the normal course of practice prior to the crisis, and then during it, European banks carried substantial amounts of sovereign debt on their balance sheets. As noted in Figure 1, these banks were carrying out a fundamental economic function of a national banking system. However, as funding conditions for the Eurozone deteriorated, the uncertain value of their sovereign holdings – and suspicion that banks held other bad paper – forced up margins in threatened nations' money and bond markets, just as these nations' governments needed their banks as financing mechanisms. Instead, these governments were forced to bail out their failing banks. Megabanks that had been nurtured as national champions in global financial competition had become “too big to save.”²² In consequence, as Acharya *et al.* (2013) have shown, Euro banks and nations were caught in a loop: government bailouts led to increased sovereign credit risk, which in turn weakened the financial sector by devaluing its bond holdings. Further, banks in afflicted nations could no longer lend because their deposit bases were eroded by capital flight, and they could no longer borrow in frozen liquidity markets.

This situation arose, of course, because of the impossibility of restoring the economic

²² Nine of the 20 countries with the highest bank-liability-to-GDP ratios in the world, in 2008, were EU countries; and among the others in the top bracket were the UK, Switzerland, and Denmark (Demirgüç-Kunt and Huizinga 2013, Table 2, p. 878).

functionality of the banking sector without a functional system of national banking regulation. Financial markets, meanwhile, focused on international imbalances and sovereign debt/GDP balances to identify the next weak link in the European chain. Once market pressure came to bear, previously undisclosed problem loans came to light. The downward cycle would repeat, while the ECB looked on from afar. As noted in section 5, this incapacity of member nations' regulators, and this inaction by the ECB, was written into the structure of the Eurozone. As the IMF's Fonteyne *et al.* (2010) put it, this situation was prefigured by a banking-regulation Catch-22:

“The pre-crisis debate... was... limited by a general unwillingness to question the basic set-up of national prudential institutions backed up by national fiscal responsibilities ... (7) “fundamental reform was repeatedly rejected on the ground that responsibility for financial stability needs to be at the level of the fiscal authority that would have to pick up the bill when things go wrong. ... Thus, the debate was reduced to a complex technocratic discussion weighing the relative merits of various sub-optimal steps forward that could only mitigate the fundamental problems that remained unaddressed” (pp. 6-7)

7. Conclusion

This paper has shown that any nation's or national confederation's resolution of its Mundell-Fleming trilemma has implications for two further “triads” involving financial regulation and the economic functionality of its banking system. Its macro-policy, financial-regulation, and banking-behavior triads are interconnected. In the case of the European Union, the design mechanism built into the Eurozone set up a trilemma forcefield that precluded effective financial regulation and led its financial system into a costly and unresolved crisis.

When the ECB finally stepped forward to provide liquidity for member nations, their banks have used it to hold securities and earn interest margin, not to lend – prioritizing their own survival in the crisis over economic functionality. Paradoxically, because large banks are weak and their survival is at stake, each nation tries to ensure their large banks' survival, which both constitutes a fiscal drain and undercuts effective regulation. Scarce fiscal capacity is demanded to rescue banks, not to meet people's needs. The absence of economically functional banks, in turn, delays economic recovery.

In sum, Europe's banking systems have failed to perform their core economic functions at the moment of their nations' greatest crises. These systemic failures are due to the current configuration of the Eurozone: it cannot deliver financial stability, cannot calm the financial markets, and is burdened with banking sectors that are, in most cases, dead weights on populations suffering from stagnation. The rules of the Eurozone, as it exists, block rather than enable democratic votes on the creation of alternative Eurozone policies that would receive popular support. The effect is to undercut the legitimacy of national (and European) governance, worsen inequality, and feed reactionary nationalism.

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