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Chapter Author: David Folkerts-Landau

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7 The Case for International Coordination of Financial Policy

David Folkerts-Landau

7.1 Introduction

The discussion of international policy coordination has so far largely been confined to issues relating to the coordination of monetary and fiscal policy. In this paper I will consider, in the light of recent developments in financial markets, the case for the international coordination of financial policy, that is, the coordination of regulatory and supervisory policies governing domestic and international financial transactions, markets, and institutions. It is generally recognized that the willingness of modern central banks to avoid liquidity crises in financial markets through the monetizing of eligible bank assets has to go hand in hand with appropriate bank supervisory and regulatory policies. Such policies are necessary to reduce the moral hazard facing banks with knowledge of the central bank intervention policy, that is to reduce the ability of banks to assume greater risk in anticipation of central bank assistance in the event depositors are unwilling to continue financing its loan portfolio. Since the market value of a failing bank's assets may not fully cover the amount of central bank assistance required to avoid a systemic liquidity crises, it is possible that, in the absence of an appropriate supervisory and regulatory policy, the public sector will assume private sector credit risk.

Recent developments in financial markets have greatly improved the ability of financial firms to transform the type and shift the location of financial transactions and balance sheets toward the less regulated activity and juris-

David Folkerts-Landau is the Deputy Division Chief of the Monetary Operations Division in the Central Banking Department of the International Monetary Fund.

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dictions, that is, to arbitrage regulatory differences. The redesign of financial transactions and redistribution of financial activity has generally induced financial authorities to liberalize regulatory constraints in the more stringently regulated activities and jurisdictions in order to ensure that financial activity will remain within their jurisdiction. We argue that such a noncooperative or competitive approach to financial policy will result in an international supervisory and regulatory structure that is on average insufficiently stringent. Under such a policy, banks can, therefore, be expected to take on a greater than optimal amount of credit and position risks, some of which will be borne by the public sector.[1] This is not to say that a competitive approach to the making of regulatory policies may not initially produce efficiency gains when starting from a financial system encumbered with historical restrictions on the domestic activities and on cross-border transactions. However, a persistent noncooperative approach to financial policy in the face of adaptive financial markets will ultimately result in an inefficiently large amount of private credit risk being shifted to the public sector through the mechanism of central bank liquidity assistance.

While the beneficial effects on macroeconomic performance of a stable financial structure with an efficient allocation of credit risk between the private and public sector are not always readily apparent and certainly are difficult to quantify, it is nevertheless widely believed that these effects are strong and immediate, as suggested in the following statement by Alan Greenspan, Chairman of the U.S. Federal Reserve Board:

> [there are] fundamental interdependencies between the macroeconomy and the financial markets that any policy maker—but especially one in the central bank—must recognize. For all the new techniques for shifting risk around the financial system, the ultimate safety and stability of that system depends on the stability of the economy on which it is based; and that economy cannot itself behave in a stable and predictable fashion if the markets in which claims on saving and capital are allocated are subject to waves of concern about key participants.[2]

In section 7.2 I review how the restructuring of financial markets has increased the ability of financial firms to arbitrage financial policies. A discussion of the optimality of the cooperative approach to financial policy follows in section 7.3, and I offer some conclusions in section 7.4.

7.2 The Dynamics of Financial Market Restructuring and the Ability to Arbitrage Financial Policy

7.2.1 Financial Sector Innovation and Regulatory Arbitrage

During the past fifteen years domestic and international financial activity denominated in the major currencies has undergone an unprecedented transformation which, although differing in detail, has been similar in its broad

features in the major countries. Important aspects of these developments have been the innovation in financial instruments and techniques; the blurring of the segmentation of markets, types of firms, and instruments; the growth of off-balance sheet activity by banking firms; disintermediation from domestic banking systems into direct debt and offshore markets; globalization of the distribution of financial products and of some financial markets, together with an increased foreign presence in domestic markets; and a rapid growth in the volume of financial transactions supporting a given volume of the real transactions.[3] The driving force behind the innovations and the restructuring of private sector financial activity has been twofold: (1) the competitive response of financial intermediaries to greater opportunities for arbitraging regulatory and fiscal differences across domestic and international jurisdictions; and (2) the increased ability to exploit liquidity guarantees and implicit credit risk guarantees provided by financial authorities.[4] The greater opportunities to arbitrage existing differences in financial policies were created by the macroeconomic imbalances since the mid-1970s and by advances in communications and transactions technology. In particular, historically high inflation rates and correspondingly high nominal interest rates highlighted regulatory and fiscal cost differences between unevenly regulated financial activities, instruments, and jurisdictions. A reduction in the cost of data transfer and telecommunications reduced the cost of separating financial transactions from the underlying real transactions, thus fostering movement to less regulated jurisdictions. Some relaxation in capital controls increased the feasibility of moving financial transactions and balance sheets outside the home jurisdiction. The increased ability to exploit public sector guarantees occurred with financial innovations that facilitated growth in those off-balance sheet activities of banking firms that were designed to avoid capital requirements and achieve a higher risk-return point.

In the early 1970s, the regulatory and fiscal structures of the financial markets in the major industrialized countries were quite diverse in: (1) restrictions on yields on financial instruments; (2) regulations defining the permissible set of activities and instruments for financial intermediaries; and (3) fiscal and disclosure rules. For example, in the mid-1970s, interest rate ceilings were important constraints in France, Japan, and the United States, but were not present in the Federal Republic of Germany nor in the United Kingdom. Furthermore, banking firms were and still are prohibited from most securities market activities in the United States by the Glass-Steagall statute and in Japan by Article 65 of the Securities and Exchange Law, while German and Swiss universal banks are free from such restrictions. Some countries had anti-gambling statutes against financial futures.[5] Differences in the extent to which banking and commerce are integrated were also pronounced (see tables 7.1 and 7.2) across the major economies, as was the extent of integration of financial services and banking.

Table 7.1 **Main Features of the Evolution of Financial Markets**

	Switzerland		U.S.		France		Germany		U.K.		Canada		Italy	
	75	87	75	87	75	87	75	87	75	87	75	87	75	87
Type of financial market														
Banking system[a]	U	U	NU	NU	U	U	U	U	NU	U	NU	NU	NU	NU
Securitization of credit flows[b]	—	—	—	—	24.8	42.5	—	—	29.4	34.8	39.3	49.4	23.3	44.4
Secondary markets[c]	W	W	A	A	N	W	W	W	A	A	A	A	N	W
Domestic regulation														
Controls on interest rates[d]	N	N	Y	N	Y	M	N	N	N	N	N	N	Y	N
Controls on credit														
Nonselective[d]	N	N	M	N	Y	N	M	N	Y	N	N	N	Y	N
Selective	N	N	M	N	Y	M	M	M	N	N	N	N	Y	N
Controls on intermediaries' portfolios														
Other than precautionary[d]	N	N	N	N	Y	N	N	N	N	N	M	M	Y	N
External regulation														
Controls on portfolio investment[d]	N	N	N	N	Y	M	Y	N	Y	N	N	N	Y	N
Controls on capital inflows[d]	Y	N	N	N	Y	Y	Y	Y	N	N	W	W	N	N
Access for foreign financial institutions[e]	E	E	E	E	E	E	E	E	E	E	N	E	R	E

Source: OECD Secretariat.

Note: 75 refers to 1975, the first year of the period studied; and 87 refers to 1987, the most recent year for which information is available.

[a]U = universal banking system, NU = nonuniversal banking system.

[b]Issues of securities as percent of total domestic credit flows.

[c]N = nonexistent; W = exist, but thin; and A = active.

[d]N = nonexistent; M = minor; and Y = important.

[e]N = not allowed or severely restricted; R = allowed with important restrictions (on branching, ownership, or other); E = allowed, subject to reciprocity and/or precautionary requirements.

Table 7.2 **Predominant Form of Commerce-Banking and Financial Service Integration in the G-10 Countries**

	Commercial Ownership of Banks	Bank Ownership of Commerce	Common Commerce Bank Holding Co.[a]	Generally Limited Integration Commerce-Banking[b]	Expanded Bank Powers[c]	Nonbank Subsidiary of Bank[d]	Financial Services-Bank Common Holding Company[e]	Degree of Integration of Banking and Securities Services[f]
Universal systems								
France			X		X			High
Germany		X			X			High
Italy				X	X			High
Netherlands				X	X			High
Switzerland				X	X			High
Blended systems								
Belgium			X			X		High
Canada				X		X		High[g]
Japan				X		X		Low
Sweden				X		X		High[g]
United Kingdom				X		X		High[g]
United States				X			X	Low

Source: Federal Reserve Bank of New York.

[a]The typical form of integration is for a single holding company to have significant ownership interests in both banks and commerce.

[b]In general, there are no controlling ownership affiliations between individual banks and commercial firms.

[c]Single "universal" banks directly provide all banking and securities services in-house.

[d]The typical form of integration is for banks to have wholly owned nonbank financial subsidiaries.

[e]A single holding company typically has significant ownership interests in both banks and nonbank financial firms.

[f]Either through expanded in-house powers or through institutional affiliations.

[g]Financial structure liberalization recently has increased the integration of banking and securities services.

In an environment of macroeconomic stability, the presence of capital and exchange controls, communication costs, as well as differences in legal and market conventions had made it costly to arbitrage these regulatory and fiscal differences by, for example, shifting financial activities to the unregulated Euromarkets. It was not until the late 1970s that macroeconomic disturbances, technological advances, and the removal of some capital controls combined to stimulate financial firms to exploit these differences. Nominal interest rates reached levels during the early 1980s that had not been experienced in most industrial countries since the post–World War II period and thereby precipitated a disintermediation from domestic banking systems, with deposit liabilities subject to interest rate ceilings, to the domestic direct debt markets, and to the Euromarkets. Bank liabilities were replaced with mutual funds, while bank assets were replaced with short-term securitized corporate claims, such as domestic commercial paper and Euro–commercial paper. Disintermediation initially was most important in the U.S. markets during the late 1970s, but took hold in nondollar markets by the mid-1980s. An important element in the disintermediation from banks to direct security markets has been the securitization of claims, and the introduction of asset-backed securities and noninvestment grade securities, which have significantly widened the credit risk spectrum (table 7.3). The securitization of claims has also spread to international lending, where syndicated loans have increasingly been displaced by issues of international bonds, note issuance facilities, and Euro–commercial paper.

The disintermediation from the banking sectors led to the growth of off-balance sheet bank transactions, most notably guarantees and short-term liquidity commitments, and fee-based activity rather than portfolio investment. An important source of innovation has been the possibility of off-balance-sheet financial activity which avoids capital charges. Loan guarantees, stand-bys, and letters of credit have become a significant source of revenue for banking organizations.[6] Perhaps the most outstanding example of a synthetic financial off-balance instrument is the currency and interest swap in which counterparties exchange obligations, for example, fix for floating interest

Table 7.3 **Issues of Securities in Domestic Credit Flows (as a percentage of market credit flows)**

	1970–72	1973–75	1976–78	1979–81	1983–85
United States	40.07	36.10	36.93	32.67	49.57
Japan	22.83	26.37	37.90	39.00	38.27
Germany	20.97	23.40	27.37	23.77	36.17
France	24.33	22.00	21.33	25.30	41.17
Italy	29.87	26.87	34.60	17.53	50.53
United Kingdom	17.43	13.63	27.67	28.80	34.80
Canada	45.07	30.03	34.87	36.83	51.97

Source: OECD, *Financial Statistics, Part 2* (Paris: 1987).

payments or dollar for sterling payments (table 7.4). Banks have been counterparties in the vast majority of swaps, the volume of which has grown from near zero in 1980 to $1 billion in 1988. Similarly, the writing of such contingent contracts as interest rate caps has provided banks with a source of revenue that did not until recently require capital commitment.[7] The side-stepping of the traditional balance sheet activities tended to preserve capital and lower regulatory compliance cost. It had the effect, however, of removing financial activity from the purview of bank regulators into less regulated activities and jurisdictions.

The sharp expansion of cross-border financial flows and the increased variability of nominal exchange rates that had accompanied the abandonment of the Bretton Woods system of fixed exchange rates led the way toward a rapid expansion of cross-border financial transactions. The level of activity in international financial markets was further stimulated by sectoral imbalances associated with increases in energy and commodity prices and the emergence of large fiscal imbalances in most industrialized countries which resulted in sharp increases in stocks of government bonds outstanding. For example, the recycling of the current account surpluses of the oil-exporting countries associated with the oil price increases of 1973 and 1979 was accomplished primarily by banking intermediaries.[8] During this period, most of the reserves accumulated by oil-exporting countries were initially held as deposits in banks in offshore financial markets and in the major industrialized countries, and lending from banks and other private creditors financed nearly half of the deficits of the nonoil developing countries.

The ability of financial institutions to exploit the opportunities presented by these macroeconomic conditions was influenced profoundly by innovations in telecommunications and data processing.[9] New developments in such areas as computer technology, computer software, and telecommunications permitted more rapid processing and transmission of information, completion of transactions, and less costly confirmation of payments. Such changes enlarged the set of markets in which financial institutions could provide intermediary services.

Table 7.4 **Outstanding Swap Transactions by Currencies, December 31, 1987**

	Interest Rate Swaps		Currency Swaps	
Currency	Millions of U.S. $	%	Millions of U.S. $	%
U.S. dollar	703,154	79.05	98,015	44.72
Japanese yen	59,988	6.74	37,025	16.89
Pound sterling	40,142	4.51	6,327	2.89
Deutsche mark	39,583	4.45	12,281	5.60
Other	46,662	5.25	65,542	29.90
Total	889,529	100.00	219,190	100.00

Source: International Swap Dealers Association, New York.

The gradual removal of capital controls in the major economies further increased the scope for cross-border regulatory and fiscal arbitrage. An early but significant step toward the liberalization of capital flows came with the removal of controls on capital outflows from the United States in 1974. The United Kingdom liberalized sterling cross-border transactions in 1979 by removing exchange controls to prevent capital outflows; their removal, along with the lifting of lending restrictions on banks (the so-called corset), opened the sterling banking and securities markets to foreign borrowers. The German authorities also have significantly reduced restrictions on capital inflows in the 1980s. Since the early 1980s, Japanese authorities have undertaken an extensive liberalization of cross-border financial activities. The number of foreign institutions allowed to borrow from Japanese banks, or to issue in the Japanese securities markets, has gradually been expanded. In addition, the Euroyen bond market was opened to foreign corporations in 1984. In the mid-1980s, the French authorities undertook an extensive liberalization of cross-border financial flows and reopened the Euro–French franc bond market. In this regard the integration of EEC financial markets through the removal of capital controls and the liberalization of restrictions on financial activities is one of the more significant developments in the recent history of world financial markets.

The lessening of capital controls, the growth of international trade and expansion of nonfinancial business across borders, and the disequilibria in international payments all acted as stimuli for financial institutions to expand into foreign markets. The number of foreign banking firms in the major industrial countries increased sharply and accounted for a considerably greater share of total bank assets (table 7.5). The introduction of foreign securities firms into domestic markets also proceeded at a rapid pace. Several stock exchanges (in Japan and the United Kingdom, for example) expanded their membership in 1986 and 1987 to include foreign firms. Moreover, the standardization of market practices such as bond ratings, settlement procedures, and codes of conduct have facilitated cross-border transactions.

While the main incentives to book bank transactions offshore were provided initially by domestic interest rate controls and reserve requirements, the growth of the Eurodollar bond market, on the other hand, has largely been due to the regulatory requirements of the U.S. Securities Act of 1933 and until recently the 30 percent withholding tax on interest payments made on U.S. domestic bonds. In excess of one third of all U.S. dollar bond issues are now underwritten in the Eurodollar market. Similarly, a cumbersome regulatory environment in the Japanese yen bond market and a withholding tax on domestic bonds stimulated the Euro-yen bond market. On the other hand, German, Swiss, and Dutch authorities insist that bonds denominated in these currencies be syndicated and underwritten, that is, anchored, domestically. However, in order to avoid the German turnover tax, nearly 60 percent of all secondary market turnover in German government bonds occurs in London together with about 50 percent of the turnover of corporate foreign deutsche

Table 7.5 International Bank Assets by Nationality of Bank (in billions of dollars)

Parent Country of Bank	December 1984		December 1986		December 1988	
	Amount	Share of total assets	Amount	Share of total assets	Amount	Share of total assets
France	200.7	8.9	276.1	8.1	384.1	8.4
Germany	143.2	6.4	270.0	7.9	353.8	7.7
Italy	90.6	4.0	145.1	4.3	201.2	4.4
Japan	517.9	23.0	1,117.7	32.8	1,756.4	38.2
Switzerland	82.9	3.7	152.0	4.5	238.6	5.2
U.K.	168.9	7.5	211.7	6.2	238.7	5.2
U.S	594.5	26.4	598.3	17.6	675.3	14.6
Other	450.7	20.1	635.4	18.6	749.8	16.3
Total	2,249.4	100.0	3,406.3	100.0	4,597.8	100.0

Source: Terrell, H., R. Dohner, and B. Lowrey, The U.S. and U.K. Activities of Japanese Banks: 1980–1988. Board of Governors of the Federal Reserve System, International Finance Discussion Papers, no. 361 (September 1989).

Note: Bank assets include claims of banking offices on nonlocal customers in foreign and domestic currencies and claims on local residents in foreign currencies.

mark bonds. Similarly, about 60 percent of the turnover in equity-related Swiss-franc bond issues takes place in London so as to avoid the turnover tax. A significant fraction of trading in equities of domestic European companies also takes place in London so as to avoid local turnover taxes, low liquidity, and inexperience of local traders. About 25 percent of total turnover in German equities takes place in London. Restrictions on short sales and the absence of domestic instruments also favor London. About one-third of total turnover in French equities takes place in London because of greater liquidity and lower transaction costs resulting from a fixed commission schedule for domestic trades. Another important incentive to issue and trade offshore is that the international clearing systems of Cedel and Euro-clear are faster and cheaper in settling trades than are many domestic clearing systems.

The prohibition on the underwriting and distribution of most securities issues by U.S. and Japanese banks has also acted as a strong incentive for banks to shift bond underwriting to London. Some countries, most notably the Federal Republic of Germany and Japan, had until recently local legal restriction on the use of financial futures. This has led to the use of interest rate futures contracts on foreign government securities on the London International Financial Futures Exchange and elsewhere.

The increasing ease of cross-border transactions, the growing volume of outstanding securities, and an increased foreign presence in domestic markets all have, contributed to the making of a global market in selected government securities. For these issues, the trading houses pass their bond book from London to New York to Tokyo to ensure continuous trading.

While money center or clearing banks, as suppliers of liquidity or lenders of last resort to nonbanks, are the main pillars supporting the domestic and international financial systems, it is the clearing and settling of payments among banks that transmits disturbances from one bank to another thus turning local financial disturbances into a systemic financial problem. These considerations have led financial authorities in the major countries, and particularly in the United States, to undertake an extensive program to strengthen payments systems. Efforts to reduce systemic risk through a reform of the wholesale payments systems are underway, most notably in the dollar system. These reforms of payments systems are aimed at preventing local operational, liquidity, and credit disturbances from disrupting the wholesale payments system. The reforms have, however, raised the regulatory cost of clearing payments through the traditional domestic clearance systems and led to the growth of offshore clearance and settlement systems.[10] Since offshore dollar arrangements ultimately must settle in the United States, either through Chips or Fedwire, significant disruptions in the offshore clearance and settlements system for foreign exchange and securities due to the failure of a participating institution, could well result in systemic liquidity problems in the United States and abroad. Offshore clearing of U.S. dollar payments for subsequent net settlement in the United States is thought to obscure and possibly increase the level of systemic risk in the U.S. large dollar payments system and in the international settlements process. Finally, offshore multilateral netting arrangements complicate the allocation of supervisory responsibilities. Formalized netting arrangements and offshore payments systems, that is, groupings of individual banks with interrelated credit and liquidity risks have shifted risks among participants, and it is unclear at what level a supervisor should examine credit, liquidity, and operational risks. Furthermore, while host country authorities of an offshore system will have an interest in supervising credit, liquidity, and operational risks, the home country of the multinational participants in the offshore system will also wish to supervise the offshore system to the extent that it affects the solvency and liquidity of home institutions. In addition the central bank responsible for the currency that is being cleared in the offshore system will have some supervisory interest in the system.

A number of broader policy issues have been raised by the proposals for different netting arrangements. In particular, it can be argued that organized netting systems are in effect monetary institutions or a monetary system. A shift away from the use of the central payments system toward the specialized netting system might amount to the decentralization of the major monetary mechanisms and thus undermine the integrity of key monetary aggregates. In essence, a netting group can arrive at the same financial position through netting without the large number of payment instructions and accompanying money flows to settle those instructions that would otherwise had been required. Thus netting could come to be a very close substitute for the function of money as a medium of exchange.

The development of multilateral clearing houses could also significantly alter the structure of interbank credit relationships. For example, several large over-the-counter markets such as the interbank foreign-exchange markets and the interbank swap market could move to organized exchanges, as is already the case with Eurodollar futures markets. In each case, net claims on the clearing organization would replace gross interbank credit exposure in the deposit markets. Under the 1987 Agreement on capital standards, bank claims on organized financial exchanges subject to daily margining have a zero-risk weight.

At a more fundamental level, one of the most important elements in the process of innovations has been the institutionalization of an "arbitrage mentality." For example, most of the prominent banking and investment banking firms have established arbitrage products departments with expensive human capital and equipment for the very purpose of undertaking regulatory, fiscal, and market arbitrage. Thus, the arbitraging of regulatory and fiscal structures has come to be viewed as a profit center.

7.2.2 The Financial Policy Response

The most important determinant of the financial policy response to financial innovations that attempt to arbitrage existing policies has been the desire by financial policy authorities to avoid major shifts of financial activity from one jurisdiction or market segment to another, either inside a country or to a foreign jurisdiction or unregulated market. Regulatory authorities have thus prevented a redistribution or loss of regulatory or fiscal control, by liberalizing regulatory or fiscal constraints in the high-cost jurisdictions, that is, by leveling the playing field around a lower common denominator. This approach is thus one of competition for "regulatory market share" by the regulators. In particular, the disintermediation from banking markets to securities markets or the shifting of financial transactions from onshore to offshore locations provided incentives for the deregulation of the adversely affected banking sector and some other domestic transactions.[11] This desire to avoid a sharp decline in the market share of the banking sector, for example, led to the gradual removal of interest rate restrictions on bank liabilities in the United States and Japan. It is likely that the growth of competition from the securities industry for traditional banking business will lead to the dismantling of some of the more onerous provisions of the Glass-Steagall Statute in the United States or Article 65 in Japan. The decline of U.S. banks in importance at the international league table is also likely to bring further pressure on banking regulators to amend financial policy toward banking.[12]

The response of regulatory agencies to structural changes in financial markets was strongly influenced by the extent to which the regulatory structure and its legislative oversight have been concentrated or specialized. The more specialized the regulatory structure, the more competition there has been among regulators, and the faster deregulation has taken place. In the United States, the regulatory structure was specialized not only by industries such as

securities (Securities and Exchange Commission), banking (Federal Reserve, Federal Deposit Insurance Corporation, and the Comptroller of the Currency), and the futures markets (Commodity Futures Trading Commission), but also along geographic lines (federal and state) (tables 7.6 and 7.7). Moreover, the federal legislative oversight was lodged with several congressional committees. This dispersed system of regulatory agencies and legislative oversight at times created incentives for institutions to switch from one regulatory domain to another and for regulators to take actions to maintain the competitive positions of the institutions they regulated by reducing regulatory costs. In contrast, the financial systems of continental Europe tended to have one or two main supervisory agencies and a single legislative oversight. In such financial systems, financial firms had a more limited ability and incentive to shift their regulatory jurisdiction within the country by changing their product line, legal form, or domicile.

Loss of trading activity from the securities markets of some countries, for example, France, has led to a significant restructuring of the intermediary industry brought about largely by removing fixed commissions schedules in

Table 7.6 **Regulatory Segmentation and Functional Supervision for Banking and Securities Activities in the G-10 Countries**

	Regulatory Segmentation			Degree of Current or Planned Use of
G-10 Countries	One principal supervisor (one for both)	Two principal supervisors (one for each)	Multiple supervisors	Functional Supervision
Universal systems				
France	X[a]			Low[b]
Germany	X			Low[b]
Italy	X			Low[b]
Netherlands	X			Low[b]
Switzerland	X			Low[b]
Blended systems				
Belgium	X			Low
Canada		X		High
Japan		X		Limited
Sweden	X			Low
U.K.		X		High
U.S.			X	Limited

Source: Federal Reserve Bank of New York.

[a]The Banking Commission, the principal bank supervisor, shares responsibility for supervising and for securities activities of banks with the Stock Exchange Council.

[b]In the universal banking countries, banks are the principal providers of securities activities, so that the need to allocate supervisory responsibility has not spurred the development of functional supervision as it has in some blended system countries.

Table 7.7 **Consolidated Reporting and Capital Adequacy Requirements of Banks and Securities Firms in the G-10 Countries**

	Extent of Consolidation of Banking Activities		Presence of Similar Consolidation Requirements for Banking and Securities Activities	
G-10 Countries	Full	Partial	For most securities firms[a]	Only for bank-affiliated firms[b]
Universal systems				
France	X		X	
Germany		X	X	
Italy	X		X	
Netherlands	X		X	
Switzerland	X		X	
Blended systems				
Belgium	X			X
Canada	X			X
Japan		X		X
Sweden	X		X	
U.K.	X			X
U.S.	X			X

Source: New York Federal Reserve Bank.

[a]In universal banking system countries, banks are the principal providers of securities services.

[b]Securities activities conducted directly in-house by a bank (in countries in which banks are not the principal providers of securities services), by a bank's securities subsidiary, or by an affiliate of a bank holding company.

securities markets and by allowing foreign ownership. A desire to increase the efficiency of the financial system to remain competitive as an international financial center also motivated the fundamental restructuring of the U.K. financial system. The regulatory framework in Canada is also being restructured toward a universal banking system to reflect a growing penetration of financial intermediaries into each other's market. In order to bring Euromarket activities back into the domestic regulatory purview, some authorities have established international banking facilities, in particular Japan and the United States. Furthermore, some countries are changing their financial policy to induce offshore activity to return to domestic markets by liberalizing regulatory and fiscal restrictions. For example, the United States has recently permitted bonds to be converted from bearer (Eurobonds) to registered form and back after a ninety-day seasoning period, thus linking the Eurobond and domestic bond markets more closely. Similarly, German and Swiss financial authorities have tried to have turnover taxes abolished in order to induce trading activity to return the domestic market and to prevent further shifts of activity in primary and derivative instrument to London. Such efforts should receive new impetus from the introduction of a German public sector debt futures contract on the London International Financial Futures Exchange. The French stock exchange is also being restructured to avoid the further loss of French

equity and based trading to London. Increased competition coming from de novo establishment of brokerage firms by foreign firms is undermining the long-standing monopoly of stock brokers over trading in France. A new stock market regulatory structure will safeguard investor protection and market transparency in Paris.

The effort of the EEC to establish, inter alia, a single financial market relies on some harmonization of national financial policies combined with home country control over financial policy. Efforts are underway to implement a sufficient degree of harmonization to obtain an EEC-wide agreement that will allow a financial institution to establish itself anywhere within the EEC and remain under the jurisdiction of its home country. Once the necessary harmonization of financial policy has been put in place, a bank or securities firm from, say, Spain would be allowed to conduct financial business in London while remaining entirely subject to Spanish financial policy. Since banks will be able to choose the jurisdiction under which they want to obtain a banking license, countries will have to adapt their regulatory structure to the least regulated jurisdiction if they wish to prevent a loss of financial activity.

It should be noted that while concern for longer-term shifts of financial transactions from one sector to another led to changes in policy by financial authorities, at times the initial policy response was motivated by attempts to avoid banking or liquidity crises. For example, with interest rate ceilings still in place in the 1970s, but with banks already relying on liability management, a credit tightening made it difficult for banks to refinance their liabilities, thus forcing them to sell off assets and borrow in Eurodollar markets. Such prospects tended to increase the pressure for removal of rate ceilings.

The above examples of the response of financial policy to financial innovations that are designed to arbitrage regulatory and fiscal cost in various markets were chosen to demonstrate that an important policy objective has been to prevent shifts of financial activities among sectors or to foreign locations. The main tool to accomplish this objective has been reform of the existing financial structure by reducing regulatory and fiscal costs to achieve a "level playing field."

Deregulation, in turn, has created incentives for further arbitrage and innovations. For example, the scope for regulatory arbitrage between domestic and offshore markets has also been extended by the gradual removal of capital controls and the increased financial flows associated with recent large-scale current account imbalances.[13] Furthermore, a greater presence of foreign financial intermediaries in domestic markets has served as a conduit for innovations and created competitive pressures.

7.2.3 The Role of Public Sector Guarantees

The changes in financial systems—innovations cum deregulation—discussed above have allowed financial firms, in particular banks, to shift activities to less regulated instruments or jurisdiction. Deregulation has greatly increased the

access of intermediaries to financial instruments subject to greater market and liquidity risk. It has also increased competitiveness in financial systems through the removal of market segmentation, an increased reliance on market-determined interest rates, and an increased foreign presence. Such a new environment has produced a number of financial crises, which gradually have sharpened and extended the role of public sector guarantees of the financial system. If the ability by financial firms to assume greater risk had been met with a credible reduction of central bank support, then financial firms would have been disciplined by the markets away from assuming more risk. However, public sector liquidity guarantees and implicit solvency guarantees have increased in many instances over the past fifteen years. For example, the default of the Penn Central in 1970 on its commercial paper led to support measures by the Federal Reserve in the commercial paper market. In the spring of 1974, the 20th largest U.S. bank, the Franklin National, nearly failed, rendering it impossible for all but the ten largest banks to roll over their maturing CDs. This development was compounded by the use of short-term borrowings to finance real estate affiliates (REIT) of banks, which led to difficulties when an unexpected rise in interest rates occurred. Again intervention by the Federal Reserve avoided a major liquidity crisis. The failure of the Continental Illinois bank led to one of the most sweeping interventions by financial authorities, which, before it was over, established the policy that some banks are *too-large-to-fail*. Thus, such rescue operations generally defined a new more generous intervention policy of the financial authorities.

The extended role of financial authorities is being further defined by the LDC debt crisis, the U.S. savings and loan crisis, and the action during the October 1987 stock market adjustment. With regard to the LDC debt crisis, I have argued elsewhere[14] that the growth in bank lending to LDCs during the period 1973–82 was, in part, due to the de facto insurance of all bank deposit liabilities which makes it optimal for bank lenders to pursue high-risk lending opportunities. The U.S. savings and loan (S&L) crisis is an example of how deregulation of restrictions on the choice of assets, without curtailing the implicit or explicit cover of bank liabilities, is an inducement for banks near default to pursue a double-or-nothing strategy by undertaking a high-risk, high-return strategy. The contingent liability of the insurance fund has been estimated currently at $250 billion. The ongoing S&L rescue operation in the United States appears to be guided by two factors. The first is to protect and preserve the insurance fund and the second is to protect and preserve the existing banking structure.[15] Since the contingent claims far exceed the resources of the insurance fund, this policy effectively has committed the general resources of the federal government to secure deposit liabilities. The Continental Illinois rescue operation established that even depositors who are well outside of the statutory insurance limits, such as large foreign depositors, are de facto insured. In the case of Continental Illinois, only about $3.5 billion of deposits were insured. Evidence that a "too-big-to-fail" philosophy guides

public sector support of banking can be found in testimony by FDIC Chairman William Seidman given in 1987 before the Senate Banking Committee

> Our experience to date in resolving several large failing bank cases suggests that the costs and dislocation of failing to fully protect certain bank depositors and creditors appear unacceptable. . . . Certainly the greatest threat to the sufficiency and viability of the deposit insurance fund is posed by the largest banks that might be considered "too-large-to-fail."

The result has been that the FDIC has given blanket assurances to the depositors and creditors in the three larger rescue cases it faced recently (Continental Illinois, First City, First Republic). An interpretation of the recent rescue actions by the FDIC as lender-of-last-resort activities is not appropriate since it consisted of lending on bad assets in support of an individual firm rather than in support of other banks that might be affected by the default, thus contradicting the Bagehot tenets. The possibilities of supporting the banks that are affected by a bank failure, instead of supporting the failed bank, by limiting deposit insurance to its statutory limit, was raised in Chairman Seidman's testimony in 1987 but was dismissed as impractical. Thus, it appears that the financial policy regarding failing banks is one of full support as long as the bank is too-big-to-fail. The extension of public sector support during the recent period of financial market restructuring seems to have been less obvious in countries other than the United States. But the perception that the financial authorities in these countries have similar views concerning too-big-to-fail firms is widespread.

7.3 The Argument for a Convergence and Cooperation of Financial Policy

In this section I first discuss the basic financial policy paradigm. Then I show that the dynamics of financial market restructuring as described above—arbitrage-driven innovations met with deregulation and increased guarantees by financial authorities—imply that a cooperative approach to the formulation and execution of financial policy dominates the competitive approach described above.

We take from the available evidence that unregulated banking systems without central bank liquidity support will be subject to periodic liquidity crises caused by a fundamental instability of the fractional reserve banking system. The ability to create currency through the open market purchase of securities or direct lending against eligible collateral has allowed central banks to guarantee the exchange rate between bank deposits and currency. In fact, during the period from 1793 to 1933 the United States experienced at least seventeen banking crises, while none have occurred since 1933, the beginning of active Federal Reserve intervention.[16] Thus the systemic financial instability in banking and payment systems was eliminated through the introduction of

the central bank clearing house, where banks would hold their clearing balances, and which stood ready to convert bank deposit liabilities into currency, taking bank assets as collateral. However, in the absence of regulatory and supervisory restraints on the activities of banks, it is easy to see that, under a broad class of assumptions about the stochastic properties of the occurrence of liquidity crises, the central bank should expect to experience losses on the bank assets acquired in the course of providing liquidity. This is the case when the market value of the collateral is less than the amount of central bank assistance deemed necessary to prevent the failure of a bank from creating a systemic liquidity problem. While the monetary effects of the liquidity operation can be sterilized, the central bank's losses on acquired bank assets falls to the taxpayers. The public sector, therefore, assumes some of the credit risk of bank assets in return for an efficient banking system. Thus, as has occurred at various stages in the evolution of the payments and banking system, a certain amount of credit risk has been accepted, in this case by the central bank, as the cost of providing an efficient payment system. The taxpayer has assumed the credit risk inherent in bank assets that serve as collateral for central bank lending in return for an efficient payment system.

In order to reduce the credit risk incurred during liquidity operations, monetary authorities impose a regulatory and supervisory regime on financial systems (not only on banking systems) designed to reduce the expected losses on acquired bank assets to a desired level. Such a regulatory and supervisory regime typically involves the setting of capital requirements and position limits, as well as assesses the solvency of the bank through supervision and inspection of the bank's assets. However, the more restrictive the regulatory and supervisory regimes, the less efficient the financial system is in pricing savings and risk. Hence there exists a trade-off between the amount of credit risk assumed by the public sector and the efficiency of the financial system. Casual observation suggests that there exist significant differences in the willingness of the public sector in various countries to assume the credit risk of bank assets. For example, recent history suggests that the United States is willing to tolerate a significant amount of credit risk in the interest of a liberal financial system, whereas financial authorities in Germany appear willing to accept a less liberal financial system (e.g., the absence of well developed short-term money markets) in the interest of a lower credit risk for the public sector.

Two questions emerge from this approach:

(1) What is the nature of the trade-off between the amount of credit risk assumed by the public sector and the various regulatory and supervisory policies, given that the intervention policy of the central bank is fully anticipated? Do there exist stable equilibria?

(2) What is the efficient set of equilibria, that is, is it possible to identify supervisory and regulatory systems that have a least effect on the efficiency of the financial system for a desired level of credit risk?

In order to address these two questions, it is necessary to reexamine the role of the banking and payments system within modern financial systems. We argue that, in financial systems with well-developed capital and money markets, the main function of the large money center or clearing banks is the supply of liquidity to nonbanks, a function that is made possible through their access to central bank liquidity facilities. This specialization is shown to be a natural outgrowth of the banks' involvement in the payment system. We argue as well that wholesale payments systems transmit disturbances from one bank to another, thus turning local financial disturbances into systemic problems.

The interbank lending which arose out of the clearance of payments meant that large banks offered lines of credit to their correspondent banks and that such banks had to specialize in monitoring and managing interbank credit which frequently arose in the clearing process on short notice and without the safety of collateral. The need to develop the skill to evaluate continually the creditworthiness of correspondent banks led banks to specialize in a short-term liquidity-type of lending in support of providing efficient payment services to their depositors. Economies of scale then led clearing banks or money center banks to extend this expertise and become suppliers of liquidity to the nonbank sector. Such banks will, for example, extend lines of credit against a fee to issuers of short-term securitized debt instruments to ensure the holders that the security will be redeemed even in times of financial market disturbance. In addition, such banks will lend on short notice large amounts to finance securities dealers' inventory, provide funds for margin calls, and satisfy other needs for liquidity. The important point is that a group of large international banks, that is, money center or clearing banks, developed by specializing in the supply of liquidity necessary for the efficient operation of payments systems. This was clearly recognized, for example, by Corrigan (1986):

> The efficient working of a large modern economy clearly requires the presence of a stock of financial assets which are highly liquid and readily transferable, thereby facilitating the broad range of transactions needed to sustain the real and financial sectors of the economy. To be highly liquid, such assets must be available to the carrier at very short notice (a day or less) at par. To be readily transferable, ownership rights in such assets must be capable of being readily shifted to other economic agents, also at par and in a form in which they are acceptable by that other party.

The large clearing or money center banks have developed in response to this need for liquidity and have come to satisfy this need through the supply of liquid transaction balances either directly or indirectly through lines of credit. An examination of the balance sheets of large money center or clearing banks tends to support the view that the provision of liquidity is their major function. Other lending activity tends to be highly collateralized or actuarially priced. The narrow view of the role of money center or clearing banks allows stronger statements about the losses in efficiency due to regulatory restraints on banking activities. If money center or clearing banks possess no special advantage in

term lending, then restrictions on their risk taking in this area are unlikely to reduce the efficiency of the financial intermediary system. On the other hand, restrictions on the ability of banks to provide liquidity to nonbanks would tend to reduce the efficiency of the financial sector. Thus the optimal type of financial regulation would seek to ensure an efficient pricing of liquidity supplied by banks.

Central bank liquidity assistance is optimal only as long as it is designed to avoid the externalities of the failure of a single or a few institutions. Such assistance should be designed to reduce systemic risk, that is, the risk that the failure of a single institution will cause a system-wide liquidity crisis. These considerations point toward the supervisory and regulatory policy that strengthens the ability of payment systems to withstand local operational, liquidity, and credit disturbances as reducing public sector credit risk without reducing efficiency. A consequence of the rapid growth of international trading in goods, services, and financial transactions and of the globalization of markets in twenty-four-hour trading is that the demand for international payment services is increasing rapidly. The international circulation of financial assets has created foreign markets for domestic assets, and large correspondent banks handle payments in currencies different from those of their countries of origin. Hence, netting schemes or international netting arrangements have been developed. This development has raised questions about whether market forces can produce an efficient and sound international payments system. Current initiatives have been undertaken so far by individual banks or small groups of banks, but in the presence of externalities, central bank cooperation might produce benefits. Systemic risk in netting arrangements ultimately derives from the credit extended in interbank settlement in the course of the settlement period. Many of these developments are inevitable due to the growth of a multicurrency reserve system in which various currency areas become overlapping. With the decline of the importance of the dollar, it is likely that in the future there will be no system that serves to anchor the one leading currency to the monetary bank supervision as lender-of-last-resort authority upon which that monetary and payment system are based. Thus clearing and settlement of foreign currency transactions have a supernational character. A third and new area of international central bank cooperation will have to be explored in addition to the area of monetary policy and bank supervision. The need for a collective involvement of national central banks in the functioning of the international payment system is brought into focus by the growth of private international netting schemes. The need expressed by the market for multilateral clearing houses for international transactions. Private cooperative arrangements without central bank involvement are unlikely to reduce systemic risk to acceptable levels, particularly the power to impose restrictions as well as provide liquidity occasionally required by members at closing time. The optimum solution among those that can realistically be achieved would require some kind of joint undertaking by the private and

public sectors with a clear definition of rules and a strict definition of the scope of central bank activity.

It is easy to see that when financial innovation by financial firms is met by attempts of financial authorities to prevent shifts of financial activities across jurisdictions or to unregulated sectors, while at the same time extending financial guarantees, then the system can be expected to experience more financial crises, as financial firms are subject to more risk, and the authorities will be subject to a greater contingent liability. Thus, such a financial system, with a financial policy which we call competitive, may experience a greater than optimal number of crises, and may misallocate and misprice risk.

In order to narrow the scope for arbitrage, a cooperative approach to the formulation of financial policy among the main financial authorities would involve convergence of regulatory and fiscal features, as well as a convergence of central bank policy on liquidity guarantees. Such cooperation could generally be credibly entered into as it would involve a large number of rules which could not be abrogated easily, rather than the coordination of only one or two highly visible policy instruments.

7.4 Conclusion

The main conclusion of this paper is that the outcome of this uncoordinated restructuring process in financial markets—driven by regulatory and fiscal arbitrage by financial intermediaries and combined with competition for market share by financial authorities—can be inefficient and unstable and results in an inefficiently large amount of private credit risk being shifted to the public sector.[17] While innovations cum deregulation have greatly extended the scope for intermediaries to assume risk in the form of interest rate, currency, credit, market, and liquidity risk, this process has not been met by a greater cost to assume more risk. Such an increase in cost could have been brought about by a reduction in implicit or explicit liquidity and solvency guarantees extended to intermediaries by financial authorities.[18] Instead, in some notable instances such guarantees were significantly extended, thereby creating an even stronger incentive for banking intermediaries to assume more risk.[19] Hence the prevailing process of restructuring financial activities has led to perverse incentives regarding risk taking by financial intermediaries.

A corollary of the above argument is that competition for financial activity by financial authorities has not produced an optimal level of prudential regulation nor an optimal pricing and allocation of risk. As a result, the financial sector has been and may continue to be a source of instability. The U.S. S&L crisis, together with the failure of some individual banks, such as Continental Illinois, are the most visible examples. In addition, it can be argued, perhaps less obviously, that excessive risk taking in lending to developing countries, as well as the more recent financing of leveraged buy-outs is a direct consequence of the incentives for banking firms to leverage off public sector guarantees.[20]

A successful coordination of financial policy across jurisdictions can avoid creating incentives for intermediaries to assume excessive risk and can facilitate a desired level of prudential regulation. Through coordination of financial policy, it would be possible to arrive at a desired level of risk and financial guarantees. In this regard, the recently concluded Basle Agreement on risk-weighted capital standards for international banks is an outstanding example of a cooperative solution to a problem that had been created by a competitive approach to bank regulation.[21] Similarly, in recently inaugurated efforts to reduce payment system risk, U.S. authorities have tended to look for an international cooperative approach.

In order to proceed much further with the analysis and determine specific areas in which a convergence of policy would be most beneficial, it is first necessary to identify a desired structure of the financial system. In this regard, the hypothesis that large money center banks, that is, banks that are too large to fail, tend to have a comparative advantage in supplying liquidity to the financial system would suggest concentrating regulatory measures on risky activities not related to the liquidity supply function. Second, since the wholesale payments system transmits disturbances from one bank to other financial institutions the design of such systems and the control of risk here would tend to improve the trade-off between efficiency loss and the amount of credit risk assumed by the public sector.

An important problem in implementing a cooperative financial policy is the treatment of financial activity in jurisdictions that are not party to cooperative agreements when such activity is undertaken by affiliates of firms in jurisdictions that are party to cooperative agreements. One possible approach could be the strict exclusion of such affiliates from the guarantee cover and the timely and rigorous valuation, by supervisors, of the parents' claims on the affiliate. The task facing supervisors in valuing such claims would, in principle, appear to be no more difficult than that of valuing bank claims on domestic commercial firms.

The main implementation of the conclusions reached in this paper can be found in the Basle Agreement of the G-10 on the convergence of risk-based capital standards for international banks. In particular, the agreement—encompassing the definition of capital and risk weights for credit risk and some interest rate risk—was reached in direct response to the problems associated with a competitive financial policy. Some firms, most notably Japanese banks, already appear to have been forced to adjust their pricing in off-balance sheet activities, which according to the agreement require capital cover. There is much less progress in cooperating on the convergence of financial policy in securities markets.

In addition to the 1987 Basle Agreement on capital standards, agreement had been reached earlier, under the auspices of the Bank for International Settlements, on consolidated capital supervision and allocation of supervisory responsibilities between parent and host country supervisors. By 1987, consolidated supervision of foreign branches, as well as majority-owned subsidiaries for capital adequacy purposes, had been established among the G-5 and Switzerland (see table 7.7).

Table 7.8 **Capital/Asset Ratios of Banks in Selected Industrial Countries, 1979–1988 (in percent)**

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Canada[a]	3.2	3.0	3.5[b]	3.7	4.1	4.4	4.6	5.0	4.8	5.1
France[c]	2.3	2.1	2.0	2.2	2.4	2.7	3.7	4.5	4.9	5.4
Germany[d]	3.3	3.3	3.3	3.3	3.3	3.4	3.5	3.6	3.7	3.7
Japan[e]	5.1	5.3	5.3	5.0	5.2	5.2	4.8	4.8	4.8	4.9
Luxembourg[f]	—	3.5	3.5	3.5	3.6	3.8	4.0	4.1	4.1	4.1
Netherlands[g]	4.3	4.2	4.3	4.6	4.7	4.8	5.0	5.2	5.6	5.5
Switzerland[h]										
Largest five banks	7.6	7.6	7.4	7.3	7.1	7.1	7.8	7.8	7.9	8.0
All banks	7.6	7.6	7.5	7.5	7.3	7.4	7.8	7.9	8.0	8.0
United Kingdom										
Largest four banks[i]	7.2	6.9	6.5	6.4	6.7	6.3	7.9	8.4	8.2	8.8
All banks[j]	5.1	5.0	4.5	4.1	4.4	4.5	5.5	5.4	6.0	6.4
United States										
Nine money center banks[k]	4.5	4.5	4.6	4.9	5.4	6.2	6.8	7.3	8.2	9.2
Next 15 banks[k]	5.4	5.5	5.2	5.3	5.7	6.6	7.2	7.5	8.4	7.9
All country reporting banks[k,l]	5.3	5.4	5.4	5.6	5.9	6.5	6.9	7.2	7.9	8.1

Sources: Data provided by official sources and Fund staff estimates.

Note: Aggregate figures such as the ones in this table must be interpreted with caution, owing to differences across national groups of banks and over time in the accounting of bank assets and capital. In particular, provisioning practices vary considerably across these countries as do the definitions of capital. Therefore, cross-country comparisons may be less appropriate than developments over time within a single country.

[a]Ration of equity plus accumulated appropriations for contingencies (before 1981, accumulated appropriations for losses) to total assets (*Bank of Canada Review*).

[b]The changeover to consolidated reporting from November 1, 1981, had the statistical effect of increasing the aggregate capital/asset ratio by about 7 percent.

[c]Ratio of capital, reserves, general provisions, and subordinated debentures to total assets. Data exclude cooperative and mutual banks. This ratio is different from the official ratio of risk coverage where assets are assigned different weights depending on the quality of each category of them.

[d]Ratio of capital including published reserves to total assets. From December 1985, the Bundesbank data incorporate credit cooperatives (Deutsche Bundesbank, *Monthly Report*).

[e]Ratio of reserves for possible loan losses, specified reserves, share capital, legal reserves plus surplus, and profits and losses for the term to total assets (Bank of Japan, *Economic Statistics Monthly*).

[f]Ratio of capital resources (share capital, reserves excluding current-year profits, general provisions, and eligible subordinated loans) to total payables. Eligible subordinated loans are subject to prior authorization by the Institut Monétaire Luxembourgeois and may not exceed 50 percent of a bank's share capital and reserves. Data in the table are compiled on a nonconsolidated basis and as a weighted average of all banks (excluding foreign bank branches). An arithmetic mean for 1988 would show a ratio of 19.2 percent. Inclusion of current-year profits in banks' capital resources would result in a weighted average of 4.4 percent for 1988. Provisions for country risks, which are excluded from capital resources, have been moderately increased in the last year. The 1988 level of provision represents five times the level of 1982.

[g]Ratio of capital, disclosed free reserves, and subordinated loans to total assets. Eligible liabilities of business members of the agricultural credit institutions are not included (De Nederlandsche Bank, N.V., *Annual Report*).

[h]Ratio of capital plus published reserves, a part of hidden reserves, and certain subordinated loans to total assets (Swiss National Bank, Monthly Report).

[i]Ratio of share capital and reserves, plus minority interests and loan capital, to total assets (Bank of England).

[j]Ratio of capital and other funds (sterling and other currency liabilities) to total assets (Bank of England). Note that these figures include U.K. branches of foreign banks, which normally have little capital in the United Kingdom.

[k]Ratio of total capital (including equity, subordinated debentures, and reserves for loan losses) to total assets.

[l]Reporting banks are all banks that report their country exposure for publication in the *Country Exposure Lending Survey* of the Federal Financial Institutions Examination Council.

Table 7.9 **Equity Markets: Secondary Trading Values and Volumes, 1979–1988 (in billions of U.S. dollars)**

	Total World Trading Value	International Equity Markets			
		Trading Value	Percentage Change	Volume[a]	Percentage Change
1979	—	73.1	—	100.0	—
1980	—	120.4	64.7	135.7	35.7
1981	—	149.4	24.1	182.9	34.8
1982	—	151.6	1.5	175.3	−4.2
1983	—	272.0	79.4	265.7	51.6
1984	—	296.9	9.2	284.6	7.1
1985	—	385.2	29.7	276.5	−2.9
1986	7,024.6	800.8	107.9	402.8	45.7
1987	11,203.3	1,344.4	67.9	591.4	46.8
1988	10,638.2	1,212.6	−9.8	440.1	−25.6

Source: Salomon Brothers, *International Equity Flows–1989 Edition*.

[a]Index 1979 = 100.

Notes

1. In this paper I concentrate on central bank intervention to avoid systemic liquidity crises, but a mispriced deposit insurance scheme would present the same moral hazard problems.

2. See Greenspan (1988).

3. For a detailed description of developments in international financial markets, see Watson, Kincaid, and Folkerts-Landau (1987).

4. See Folkerts-Landau and Mathieson (1988), Kane (1983), and Silber (1983).

5. The antigambling statute in Illinois was superseded in 1974 to allow for trading in financial futures with cash settlement. See Miller (1986).

6. Standby letters of credit issued by the ten largest money center banks grew from 7.5 percent to 11.5 percent of total assets during 1981–85. Interest rate swaps grew from zero to 14 percent of total assets, on a national value, over the same period, while foreign exchange contracts rose to 105 percent of total assets by 1985.

7. Under the Basle Agreement on risk-weighted capital standards, such off-balance sheet transactions are now treated as balance sheet items.

8. See Folkerts-Landau (1985).

9. For a detailed discussion of the implications of these technological changes for financial markets, see Saunders and White (1986).

10. See *Report on Netting Schemes*. Basle, Switzerland: Bank for International Settlements, 1989.

11. A further motive for deregulating interest rate ceilings and restrictions on the investment choice of some financial intermediaries has been the need to finance fiscal deficits. A greater volume of government bonds outstanding acted as a stimulus to the development of secondary markets for debt securities with market-determined yields and presented an investment asset alternative to bank liabilities.

12. See Heller (1988) and Greenspan (1988).

13. Another example of an innovation made possible by deregulation are financial futures, the need for which increased with the spread of variable interest rates.

14. See Folkerts-Landau (1985).

15. See Golembe (1988).

16. See Schwartz (1988).

17. The contingent liability incurred by financial authorities through implicit or explicit guarantees to financial intermediaries should be added to expected fiscal deficits.

18. As described in section 7.3, the presence of guarantees covering the obligations of financial intermediaries is the main reason for regulatory restrictions on financial activities. Hence a reduction in such restrictions should be accompanied by a reduction in guarantees.

19. Since securities houses are increasingly thought to be protected by liquidity guarantees, this argument also applies here.

20. See Folkerts-Landau (1985).

21. In this instance, widely diverging capital standards had offered a competitive advantage to banks from some jurisdictions, most notably Japan (table 7.8), and some national regulators were reluctant to raise capital standards for fear of putting their banks at a further competitive disadvantage.

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Comment Francesco Papadia

Just to make clear to the reader how much I agree with the paper, and thus maybe spare him or her further reading of this comment, I want to put my main, but minor, disagreement at the beginning. This has to do with the use

Francesco Papadia is a director and head of the International Economy Section of the Research Department of the Banca d'Italia in Rome.

of the term "financial policy" for what I would rather call supervisory and regulatory policy. Of course, language is a convention and the author is careful to spell what he means by financial policy. Yet conventions are not irrelevant and not little confusion would arise if one decided that yes means no, and no means yes. The case here is less extreme, but financial policy evokes financing decisions for a firm or a government, not the admittedly heterogeneous set of activities which are commonly referred to as supervision and regulation of financial markets.

Having disposed of my main point of disagreement, I can now underline one of the merits of the paper: the illustration of the developments which increasingly allow financial firms to arbitrage regulations and liquidity support from regulatory authorities across geographical boundaries and sectors. The emphasis on this second aspect, that is, on the increasing ability of financial firms to shift business away from heavily regulated sectors, such as commercial banking, to less regulated ones is indeed an interesting feature of the paper, complementing the more usual remarks on arbitrage across jurisdictions. Also the explanation of the phenomenon given in the paper is convincing, stressing the increased opportunities flowing from technological advances, macroeconomic imbalances, and new financial products.

The only criticism I have of this aspect of the paper is that Folkerts-Landau does not pay much attention to what is probably the most extreme example of new opportunities for financial firms to arbitrage regulations and liquidity protection, namely the EEC single market to be achieved by 1992. The year 1992 has become the code word for a complex, yet simple, set of events. The simplicity lies in the fact that an integrated market will be created out of twelve segmented ones. The complexity lies in the fact that to achieve this result, a formidable number of institutional and behavioral changes are required.

As regards financial markets, a sizable chunk of 1992 will indeed occur in 1990. The twelve EEC countries have in fact decided that complete liberalization will take place by mid-1990, with provisional arrangements for Spain, Greece, Portugal, and Ireland. Complete liberalization means that all financial transactions will be allowed, including so-called monetary ones. Controls could be reimposed only by means of a safeguard clause for a maximum of six months.

The application to banks and other financial institutions of the general principle of allowing competition across borders, through the establishment of a minimum of harmonization and mutual recognition, implies that they will be allowed to operate in all member states of the EEC subject to the core harmonized provisions while complying with the rules of their country of origin. Thus, in principle, in every state there could be banks complying with twelve different regulatory and supervisory systems and this of course will affect competition. Unless customers are ultrarational and understand that different regulations imply different degrees of protection, for which they are somehow willing to pay, the result will be exactly, and to a very high degree,

the one underlined in Folkerts-Landau's paper, that is, competition in laxity by supervisory authorities.

The main point of the paper is, in fact, that there is increasing competition between regulatory systems. Operators are increasingly able to "buy and sell" financial regulations, thus giving a specific example of a general phenomenon underlined a long time ago by Richard Cooper. This is putting pressure on regulators who see their "market share" decrease if they insist on tight regulation; the net result is a general loosening of regulations. The answer is increasing coordination of supervisory and regulatory policy.

All this is very neat in theory and relevant in practice. As often happens, however, it is not terribly neat in practice. Indeed, coordination of regulatory and supervisory policy can be either bad or good. The crucial difference is whether the regulations are economically justified or not. Schemes like emergency liquidity and deposit guarantees, for instance, could be needed because of information asymmetries, which make the confidence required to maintain banks in business potentially very volatile, or, as the author puts it, because "payments systems transmit disturbances from one bank to another, thus turning local financial disturbances into systemic problems." But such schemes induce banks to take extra risks, and therefore additional checks and regulations must control the quality of their assets. Alternatively, and some of the passages of the paper seem to support this view, authorities "bail out" banks and impose controls and regulations for some unclear and possibly not very good economic reasons.

The policy prescription is radically different depending on whether the regulations and the underlying schemes for providing emergency liquidity or deposit guarantees do or do not have to make up for a market failure. If they do, coordination of regulatory policy is obviously good; if they do not, the welfare effect of coordination is uncertain.

In fact, in the former case, coordination eliminates an avenue whereby financial institutions could increase the riskiness of their assets up to a point where the stabilization effect of liquidity protection or deposit guarantee would be completely offset. In the latter case, however, while the possibility to evade controls would clearly make any "bailing out activity" on the side of authorities more costly, it would also increase welfare by reducing economically unjustified restrictions. In addition, one would think that, in the long run, the very fact that bailing out activities were made more costly could make the authorities less prone to embark on them. In any event, it would certainly be a welfare-improving move to shun coordination while reducing regulations and "bailing out" activities.

The paper outlines the two possibilities but, reflecting the unfortunate fact that reality is not as clear-cut as one would wish, Folkerts-Landau does not really succeed in discriminating between the two, although he does harness relevant material for the purpose. This remains the task for further analysis.

A final sort of technical remark is that it cannot be literally true that there is "competition for market shares by financial authorities." The main point of the paper can be restated by saying that the possibility to arbitrage regulations across markets and sectors has transformed regulatory authorities from monopolists to monopolistic competitors. These are likely to maximize profits, or revenue, not market share. To see that the two maximization activities can yield drastically different results, imagine that the monopolistic firm applied a zero price and the regulatory authority applied zero control. They would thus maximize market share but realize zero revenue and zero control, hardly a desirable outcome. It is more reasonable that regulatory authorities maximize total control, which would be a function of market share and unitary control, that is, control per financial institution. This view is also more consistent with the empirical observation that supervisory authorities, while taking account of competition from other authorities, are surely not bringing their regulations to zero. Indeed, it appears that authorities from large countries, which are likely to be confronted with a steeper demand curve, because they are less exposed to competition from other authorities, tend to apply stricter regulations than those applied in small, and eventually tiny, countries.