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Capital Mobility and Financial Integration: A Survey

Peter B. Kenen

INTERNATIONAL FINANCE SECTION
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This is the thirty-ninth number in the series PRINCETON STUDIES IN INTERNATIONAL FINANCE, published from time to time by the International Finance Section of the Department of Economics at Princeton University.

The author, whose name customarily appears on this page as Director of the International Finance Section, is also Walker Professor of Economics and International Finance at Princeton University. This is the first time he has exercised his judgment as Director in favor of his own work as professor, but it is his second publication for the International Finance Section. The first appeared in 1963, when he was on the faculty of Columbia University.

It has been hard to decide whether to print the standard explanatory paragraph beneath the Director's introduction of the author. Continuity, if not credibility, favors its inclusion. It follows without modification.

This series is intended to be restricted to meritorious research studies in the general field of international financial problems that are too technical, too specialized, or too long to qualify as ESSAYS. The Section welcomes the submission of manuscripts for this series. While the Section sponsors the studies, the writers are free to develop their topics as they will. Their ideas and treatment may or may not be shared by the editorial committee of the Section or the members of the Department.

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PREFACE

This monograph is the direct descendant of a paper I read at the Budapest Congress of the International Economic Association in August 1974. Like most offspring, however, it is bigger if not better than its parent. It develops several themes that could be played only once, without variations, in that short paper and adds thoughts provoked by the discussion in Budapest. I am particularly grateful to Alexander Swoboda, whose comments at Budapest have helped me to see what I was trying to accomplish and to avoid some traps I had set for myself.

Much of what is new in this monograph, however, results from a continuing dialogue with my colleague, Polly Allen, with whom I am collaborating on a larger study of the theory of international financial integration. She shares credit but no blame for the discussion of substitution, mobility, and integration in the first part of this monograph and for the specification of the algebraic model in the second part.

Finally, I am grateful to members and guests of the Research Seminar in International Economics at Princeton University for comments on earlier drafts and for their own presentations. I owe large debts to William Branson, Rudiger Dornbusch, Dwight Jaffee, Pentti Kouri, and Lars Nyberg. The research reflected in this monograph was supported by the International Finance Section, Princeton University, and the Ford Foundation's research program on International Economic Order.

I. INTRODUCTION

Capital mobility and financial integration are subjects too large for close inspection, even for a rapid tour, in a single monograph. To examine all aspects of capital mobility would require a number of excursions. Economists have dealt with it in many ways, by building mathematical models, analyzing large amounts of data, and describing minutely the evolution of policies, markets, and financial institutions in major countries. The subject has several dimensions, real and monetary, positive and normative, short and long term. The international integration of financial markets, the ongoing process and the state of affairs, is another sprawling subject. It can be approached in just as many ways and has as many separate dimensions.

Here, then, I concentrate on two tasks. In Chapter II, I examine the relationships between mobility and integration, the obstacles to each, and some costs and benefits of integration. In Chapter III, I examine the implications of capital mobility for domestic monetary and fiscal policies and its effects on the process of balance-of-payments adjustment under fixed and flexible exchange rates.

Some readers may find Chapter II too casual and discursive. Others may complain that Chapter III is too abstract and terse. I am acutely aware of the difference in method and style, but I would not want to treat the subject one way without the other. It would be wrong to disregard the conceptual, political, and institutional problems considered in Chapter II. It would also be wrong to call a halt at the end of Chapter II without applying formal methods to the analysis of mobility and integration.

II. ASPECTS OF MOBILITY AND INTEGRATION

Here, I propose to comment on five questions: What is the most useful way to define international financial integration? Are there ways to measure the degree of integration? What are the connections between financial integration and capital mobility? What are the principal barriers to integration? And what are the costs and benefits of integration?

My answers to these questions will be framed to reflect a view I have expressed elsewhere (Kenen and Lubitz, 1971, Chap. 1). The distinguishing feature of international trade, whether in goods, services, or claims, and of international migration is the fact of national sovereignty. International trade involves transactions between parties who reside in different jurisdictions. When the parties are corporations rather than natural persons, they are the creatures of those jurisdictions and may have different attributes. International migration likewise involves the movement of an economic actor from one jurisdiction to another.

Much can be accomplished analytically by treating nations as regions and the theory of international trade as the "chief application of the general theory of interregional trade" (Ohlin, 1933, p. 67). But this method can seduce us into the sin of neglecting the roles of power and policy in international economic transactions, a sin for which Galbraith (1973) has castigated our profession. Much can also be accomplished by adopting the Ricardian supposition that factors of production are perfectly mobile within countries and perfectly immobile between them, or the more general supposition that transport costs are higher internationally than intranationally. But these suppositions have a different flaw. They attach excessive importance to characteristics that are in truth differences of degree, not kind. Furthermore, they are contradicted by experience. The costs of moving goods, claims, and people are not always higher internationally than they are domestically.[1]

Ricardo's example is a better guide than his suppositions about mobility. He and his followers used the tools of economic analysis to

[1] Some years ago, the U.S. Tariff Commission was asked to rule that West Coast producers of clay soil pipe constitute a separate industry and should be allowed to apply for relief from import competition. They were separate, it was claimed, because their output did not compete with that of other U.S. firms but was subject to intense competition from Canada. It was much more expensive to ship clay soil pipe across the Rocky Mountains than across the Canadian border.

study the implications of sovereignty—of governments' attempts to regulate foreign trade. It is also important, however, to catalogue the implications for international trade and migration of differences between *domestic* institutions and policies—of differences in laws and customs like those that define the rights and duties of employers and employees or of creditors and debtors and of differences in policies that express each society's choices between private and public ownership, between personal and collective consumption, and between such targets as full employment and price stability. Finally, it is important to catalogue the implications of ways in which governments have chosen to connect or separate their jurisdictions—of laws that levy taxes on incomes earned from foreigners and those paid to foreigners; of laws that collect or remit domestic taxes on goods, claims, and persons crossing the frontier; and of laws, regulations, and practices by which governments link or insulate their monetary systems.

On Capital and Claims

It is churlish, if not wrong, to quarrel with definitions. It is worse, however, to use terms that can have many meanings without indicating which one you have in mind. Some definitions, moreover, are invitations to confusion. Consider a few of the definitions attached explicitly or implicitly to the terms "capital" and "capital movements" in writings on international trade and international investment.

In much of what is written on the pure theory of international trade, especially on the factor-endowment analysis of comparative advantage, capital is represented by a single, undifferentiated commodity, the capital good, that can be used in various combinations with labor and other factors to produce all outputs, including additional units of the capital good.[2] In the same context, the long-run consequences of international capital movements are analyzed by assuming that some part of the stock of capital goods has been shifted bodily from one country to another.

This view of capital is consonant with usage in the theory of production and national-income accounting. But it is also the source of serious misconceptions. Students who have mastered this notion of capital (and no longer make the freshman mistake of confusing the acquisition of financial assets with capital accumulation) find it difficult to understand

[2] See, e.g., Samuelson (1965). In that same paper, Samuelson shows that one can derive many of the standard factor-endowment results in models containing several capital goods. See also Acheson (1970).

why paper claims on foreigners are included in a country's capital stock. What is worse, they continue to infer incorrectly that trade in the capital good is required if there are to be any capital movements.[3]

It is, of course, unnecessary to make this assumption. International capital movements can take place even when there is no trade in the capital good. It is sufficient for the good to depreciate, so that a capital-exporting country can run down its capital stock. By producing fewer new capital goods (failing to replace those that depreciate), it can produce additional consumer goods and sell them to the residents of another country in exchange for claims on that other country's future output. The capital-importing country can cut back its own output of consumer goods, increase its output of capital goods, and add to its capital stock.

Capital movements occur whenever there is an exchange of goods for claims, whether or not the capital good is traded. A transfer of capital goods from one country to another does not, by itself, denote a capital movement. Conversely, capital movements need not be accompanied by transfers of capital goods. They need not even be accompanied by real capital formation. A country can issue claims on its future output merely to consume more currently. It can mortgage some part of its future output to purchase consumer goods from other countries.

Balance-of-payments accounts are organized to identify and stress the exchange of goods for claims that is the fundamental characteristic of a net capital movement. The balance on current account is defined so that its mirror image measures net foreign investment, including any change in a nation's reserves (its holdings of international money). That balance, moreover, appears in the national-income accounts as one of the ways in which a nation uses its saving. Net foreign investment constitutes an addition to national wealth.

Much of what is written on the problem of accommodating capital movements, the so-called "transfer problem," uses the concept of capital I have just advocated. In this very different literature, capital movements involve the acquisition of claims on the outside world, and the process of accommodation is the manner in which the two countries involved jointly generate a change in the balance on current account that

[3] For a history of this fallacy, see Caves (1960), pp. 134–136. Caves insists that "only one view of the factor 'capital' proves meaningful with respect to problems of adjustment and interregional capital movement in international trade. It is the view that capital consists of 'waiting' or purchasing power over goods and services; it does not consist of supplies of particular capital goods" (p. 134). I reach a similar conclusion below, but use different language (my "claims on future output" represent Caves's "waiting").

is sufficient to offset the capital movement. A transfer problem is said to exist when, at constant prices and fixed exchange rates, the change in the balance on current account induced by the changes in the two countries' spending is smaller than the desired transfer, and the actual transfer has therefore to be smaller than the desired transfer. Some part of the desired change in one country's claims on the other has to be made by exchanging claims for claims (reserves) rather than exchanging claims for goods.

Consider, next, the sense in which the term "capital" is used in much of what we read about multinational firms. Here, authors are not talking about capital in any of the senses encountered heretofore. Instead, they are talking about the activities of capital*ists*. They are concerned with the implications of foreign decision-making, of foreign control rather than ownership. It should be noted, in fact, that direct investment, the process of acquiring control over an enterprise in a foreign country, need not involve any transfer of capital in either of the two common meanings I have mentioned. It need not involve a shift in the geographic location of capital goods or an exchange of claims for goods. It can and often does involve a swapping of claims for claims.

A firm deciding to acquire a plant abroad has many ways to carry out that decision. It can rent a foreign plant rather than buy or build one. And even when it chooses to buy or build, it has several ways to finance its acquisition. It can use retained earnings; it can issue claims (debt instruments or stock) in its own country; it can issue claims in the country where the plant is to be located; it can issue claims in some third country. And if it issues claims in the country where the plant will be bought or built, the act of direct investment does not involve a net capital transfer.

Many firms have exercised this option. In 1969, the foreign affiliates of U.S. firms spent $10.65 billion to acquire current and fixed assets. Half of the money came from or through the parent companies. Half came from other sources. Here are the figures (in billions):[4]

Total from parent companies	$5.30
Earnings reinvested by parent companies	2.08
New equity investment by parent companies	0.93
Lending by parent companies	2.29

[4] Figures from U.S. Department of Commerce (1972), p. 19. Additional data for 1966–72, pertaining to a sample of foreign affiliates, are supplied by Mantel (1975). None of these data are strictly comparable to the corresponding balance-of-payments statistics; they come from a special survey of majority-owned foreign affiliates.

Total from others	$5.34
New equity investment by minority stockholders	0.10
Long-term borrowing from others	1.30
Short-term borrowing from others	3.94

This heavy reliance on borrowing outside the United States, some of it from foreign banks and other financial institutions, was due in part to the influence of U.S. controls on direct-investment outflows (Cairncross, 1973). But some was the more normal outcome of comparisons of costs (and risks) of borrowing in various capital markets.

The literature on direct investment raises important questions, and more work is needed to answer them. We are just beginning to study systematically why firms go abroad; how their decisions affect the levels and locus of production; how they affect employment, capital formation, and rates of economic growth in the host and source countries; and how they are apt to influence the volume, composition, and direction of international trade.[5] We need to know much more about the ways in which governments can use or modify the instruments of economic policy to influence firms whose own decision-making domains span many national jurisdictions.[6] It may now be time, for example, to consider bilateral or mutilateral agreements that would allocate the firms' global incomes among tax jurisdictions, eliminating the need to police transfer-pricing practices.

These normative questions, however, lie outside my own domain, the relationship between capital mobility and financial integration. Furthermore, my comments on the financing of direct investment suggest that I can also set aside questions about the determinants of direct investment.

The process of direct investment can be deemed to have two parts. The first is concerned with acquisitions of facilities abroad. The second is concerned with the financing of those acquisitions. The first is the province of economists who deal with the microeconomic analysis of real capital formation and industrial organization. The second is the province of those who deal with international capital movements. Decisions concerning ways to finance a direct investment are no different

[5] Theoretical work on firms' reasons for going abroad is surveyed by Ragazzi (1973); his survey, however, appeared too early to include the important contribution by Horst (1972). See also the studies cited by Caves (1974). Theoretical and empirical research on the causes and consequences of direct investment is reviewed comprehensively by Hufbauer (1975).

[6] The concept of domains was introduced by Cooper (1968). Unhappily, it has not been used extensively in formal economic analysis.

in principle from decisions concerning ways to finance a domestic investment. They should be studied just as one would study the old-fashioned choice between home and foreign borrowing by, say, a municipality or public utility, using the models one would employ to describe the optimization of any portfolio—models that focus on interest rates, tax rates, risk proxies, and the like.[7] It is wrong, indeed, to study them by any other method, and econometricians who try to explain the direct-investment flows appearing in balance-of-payments statistics err gravely when they use neoclassical models like those developed to explain real capital formation.[8]

All these introductory comments lead to one conclusion: The study of international capital movements should focus on reasons for acquiring claims on foreigners and for issuing claims to foreigners and on the markets in which these claims are issued and traded. And any catalogue of reasons for acquiring or issuing claims should include preferences concerning maturities as well as preferences concerning currencies.

It has been argued, for example, that the United States served for many years as an international financial intermediary. It accepted long-term claims on foreigners, making direct investments and long-term loans, and issued short-term claims to foreigners, including foreign central banks and governments (Kindleberger, 1965). On this view, the exchange of claims for claims, not of claims for goods, was the dominant and beneficial characteristic of U.S. payments experience, serving to reconcile the differing liquidity preferences of Americans and for-

[7] My own model of the U.S. balance of payments, in Kenen (1973b), uses this relationship for 1953–69:

$$ln(\text{EDI}) = -14.03 - \underset{(2.32)}{1.601}ln(SDI_{-1}) + \underset{(3.89)}{3.287}ln(ECS) - \underset{(2.77)}{2.858}ln(RUS_{-1})$$
$$+ \underset{(4.07)}{3.307}ln(RFN) + \underset{(2.65)}{2.244}ln(RCN) - \underset{(3.39)}{0.633}DV - \underset{(3.19)}{0.751}DM,$$

where *EDI* is the quarterly direct-investment outflow, SDI_{-1} is the stock of direct investments (parent-company claims) at the end of the previous quarter, *ECS* is gross corporate saving in the United States, *RUS* is the U.S. long-term interest rate, *RFN* is an average of European long-term interest rates, *RCN* is the Canadian long-term interest rate, and *DV* and *DM* are dummy variables denoting the "voluntary" and "mandatory" U.S. controls on direct-investment outflows. The coefficient of determination is 0.75; the Durbin-Watson statistic is 1.62. Numbers beneath the coefficients are *t* statistics.

[8] See, e.g., Kwack (1972). Stevens (1972) avoids this pitfall by treating direct-investment outflows as functions of concurrent capital formation by direct-investment affiliates. Severn (1972) and Ladenson (1972) avoid it by a more ambitious method; they explain capital formation and direct-investment outflows as the joint results of the firm's decision-making processes.

eigners. On this view, moreover, the U.S. balance-of-payments deficit was not a symptom of overspending or any other malady. It was a statistical illusion, produced by dividing up the capital account—by drawing a line arbitrarily between the long-term claims acquired by the United States and the short-term claims it issued.

More recently, capital flows to and from the United States have probably been dominated by investors' preferences concerning currencies, not maturities. Individuals and firms have swapped claims with foreigners in order to translate their net worth from one currency into another. Some of these exchanges have involved forward foreign-exchange contracts, and these do not appear in the balance-of-payments statistics. But a forward foreign-exchange contract is a swap of claims for claims; it is a specialized financial instrument designed expressly for the purpose of altering the currency in which wealth is held. Recent work on the theory of forward exchange exploits this insight. It derives the demand for forward exchange by traders, arbitrageurs, and pure speculators from models of portfolio management (Kenen, 1965, and Feldstein, 1968).

Defining Integration

The implications of capital movements for the functioning of financial markets and the conduct of financial policies are usually approached by asking to what extent capital movements have integrated various financial markets. Here again, however, terms are not always defined precisely, and carelessness can cause confusion.

The integration of two markets is usually defined and measured by applying the law of one price (see Kindleberger, 1974, and his references to Tinbergen, Balassa, and Myrdal). In many theoretical accounts, two markets are said to be perfectly integrated when prices are the same in both and the two behave as one. In much empirical work, the degree of integration is measured by averages of differences between market prices and other, more sophisticated indexes of convergence or dispersion.

This approach is not sufficiently elastic. It is quite appropriate to the study of two markets that deal in the same good, service, or claim in two countries or two regions of a single country. But it does not give guidance to reasoning or measurement when, as is typically the case, the goods, services, or claims traded in two markets are not identical in every respect. When they differ in any manner visible to those who use or hold them, there is no reason for their prices to be the same, the law of one price cannot furnish a standard for measuring integration,

and price differences cannot be used to identify departures from perfect integration.[9]

Integration, I believe, is more fruitfully defined by the extent to which markets are connected. More precisely, I employ it to describe the degree to which participants in any market are enabled and obliged to take notice of events occurring in other markets. They are *enabled* to do so when information about those events is supplied promptly and accurately in a form that permits its assimilation into the decision-making processes of recipients. They are *obliged* to do so when it is supplied in ways that invite them to use it in order to achieve their own objectives—to maximize income, wealth, or satisfaction.

This definition resembles Cooper's (1968) notion of interdependence. It *sounds* quite different from the definitions employed by Scitovsky and by Allen in their discussions of financial integration. According to Scitovsky (1969, p. 90), integration is measured by the transferability of assets from one market to another:

> Indeed, the unresponsiveness of an asset's price to selling in one and buying in another region is the best index of the degree to which its market is integrated. The unresponsiveness of asset prices as a whole to asset transfers and attempted asset transfers of this sort indicates the extent of integration of asset markets in general.

According to Allen (1976, p. 19), integration is measured by substitutability:

> The degree of integration between two or more securities markets reflects the degree of substitutability between those securities.

But Allen goes on to show that Scitovsky's definition is not significantly different from her own. It is impossible to transfer assets from one region to another without changing asset prices unless investors in that other region are willing to regard the assets in question as perfect sub-

[9] It would be wrong, however, to neglect the information developed by those who have used *changes* in price differences to study *changes* in the degree of integration. I cite this information below. Furthermore, price differences at a point in time can be used to study a phenomenon that bears indirectly on the degree of integration. They can measure the heterogeneity of the goods, services, or claims traded in two or more markets. This was the suggestion made by Swoboda (1976) in response to my assertion, in Kenen (1976a) and later in this paper, that the heterogeneity of borrowers and instruments is larger internationally than domestically, making for a less perfect international integration of financial markets. "The crucial question," he replied, "is whether interest rates tend to differ more within one nation than among various nations."