

INTERNATIONAL FINANCE DISCUSSION PAPERS

PATTERNS OF HOUSING EXPERIENCE DURING PERIODS OF
CREDIT RESTRAINT IN INDUSTRIALIZED COUNTRIES

by

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Discussion Paper No. 7, January 11, 1972

Division of International Finance

Board of Governors of the Federal Reserve System

This paper was presented at the annual meeting of the American Finance Association, December 27, 1971 in New Orleans. It reflects the personal opinions of the authors and must not be interpreted as representing the opinion of the Board of Governors.

PATTERNS OF HOUSING EXPERIENCE DURING PERIODS OF CREDIT RESTRAINT IN INDUSTRIALIZED COUNTRIES

Robert Moore Fisher and Charles J. Siegman*

I. INTRODUCTION

Declines in private housing production during periods of credit restraint have been widely publicized in the United States. Four such downturns have been recorded in the past decade and a half--in 1955-57, 1959-60, 1965-66, and 1969-70. A variety of measures have been adopted or recommended during recent years in an effort to lessen the disproportionately heavy impact of credit restraint on the private housing sector. Other measures have been offered to minimize the need for, or reliance on, credit restraint.^{1/}

Credit-affected downturns in private housing starts or residential building permits, however, are far from endemic to the United States alone.

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^{1/} Among recent studies are Leo Grebler, The Future of Thrift Institutions, A Study of Diversification Versus Specialization (Danville, Ill.: Joint Savings and Loan and Mutual Savings Bank Exchange Groups, 1969); Irwin Friend (director), Study of the Savings and Loan Industry (Washington, D. C.: U.S. Government Printing Office, 1970); Report of the Commission on Mortgage Interest Rates to the President of the United States and to the Congress (Washington, D. C.: U.S. Government Printing Office, 1969); Henry B. Schechter, "The Residential Mortgage Financing Problem," Subcommittee on Housing of the House Banking and Currency Committee, 92d Cong., 1st Sess. (Washington, D. C.: U.S. Government Printing Office, 1971); the Federal Reserve Housing Study (October 1971); and The Report of the President's Commission on Financial Structure and Regulation (December 1971).

They have taken place since the mid-1950's in Canada and certain West European countries as well. Canada has recorded four cases; Belgium, Great Britain, and Switzerland each has had three, Germany two, and Italy one.^{1/} In most if not all of these cases, private residential construction has been affected more severely by credit restraint than other major branches of the economy. Omitted from discussion are still other cases, as in Sweden and France, where the scope of public involvement in the housing sector has minimized the analytical significance of "private" housing production.

Including the United States as well as Canada, Belgium, Great Britain, Switzerland, Germany, and Italy, a total of 20 instances of downturns in private homebuilding have been associated with periods of credit restraint since 1955, as shown in Table 1. The declines have occurred despite wide differences among the countries in prevailing institutional arrangements affecting the housing sector. An

^{1/} For details, see Robert Moore Fisher and Charles J. Siegman, "Housing and Financial Restraint: Observations on Foreign Experience," a paper in the Federal Reserve Housing Study (March 1971), p. 10 ff. For Germany and Italy, the latest period of credit restraint was excluded owing to special factors affecting the pace of housing activity. In 1969 and 1970, although German monetary authorities tried to curb inflationary pressures by adopting restrictive credit policies, domestic credit tightening turned out to be rather ineffective owing to enormous inflows of foreign funds. In Italy, the introduction of new and stricter building code regulations, effective September 1968, led to a bunching of building permits prior to that date, and a subsequent sharp decline.

Table 1

Declines in Private Housing Starts or Residential Building Permits
Associated with Periods of Credit Restraint --- 1955-1970
(based on seasonally adjusted data)

Country	Indicator	Duration of decline (Year and Quarter)	Number of quarters of decline	Total decline (per cent)	Average quarterly rate of decline (per cent)
Belgium <u>a/</u>	permits	1957 QII to 1968 QII	4	18	4
		1964 QI to 1965 QII	5	23	5
		1969 QII to 1970 QI	3	30	10
Canada <u>a/</u>	starts	1955 QIII to 1957 QI	6	42	7
		1958 QIV to 1960 QI	5	41	8
		1965 QIII to 1967 QI	6	32	5
		1969 QI to 1970 QII <u>c/</u>	5	47	9
Germany <u>a/b/</u>	permits	1960 QI to 1960 QIII	2	3	1
		1965 QIII to 1967 QI	6	18	3
Great Britain	starts	1957 QI to 1957 QIII	2	10	5
		1965 QI to 1966 QIV <u>d/</u>	7	36	5
		1968 QIV to 1970 QI	5	30	6
Italy <u>a/b/</u>	permits	1963 QIII to 1965 QI	6	54	9
Switzerland <u>a/</u>	permits	1955 QII to 1957 QIV	10	53	5
		1960 QII to 1965 QI	19	50	3
		1969 QIV to 1970 QIII	3	30	10
United States -	starts	1955 QII to 1957 QI	7	32	5
		1959 QI to 1960 QIV	7	26	4
		1965 QIV to 1966 QIV	4	39	10
		1969 QI to 1970 QI	4	24	6

Source: Fisher and Siegman, "Housing and Financial Restraint . . .", op. cit., p. 11, updated and revised. The duration of decline extends from the highest level reached during period of credit restraint to trough, which may be attained from time after credit restraint ended.

a/ Includes minor number of public starts. b/ The latest period of credit restraint is not relevant; see footnote, p. 2. c/ In 1970 QII, there was a strike of construction workers.

d/ 1967 QI inflated by land-betterment levy, introduced April 6.

analysis of the incidence, frequency, and severity of these declines is the subject of our paper.^{1/}

The downturns discussed here represent, of course, a special case of the more general subject of fluctuations in the rate of production of housing, whether credit affected or not. These changes may occur no matter if housing is publicly or privately owned, in industrialized or developing nations, or in market or socialist economies. Negative as well as positive rates of growth in total housing production have been recorded even in certain East European countries, as measured on an annual basis.^{2/} There, however, credit restraint has not been the determining influence.

Part II of this paper deals with several features associated with the comparative study of housing experience during periods of credit restraint. In the first section of Part II, some reasons are presented why credit-affected housing downturns abroad have been studied so little in the past. In the next section, two procedural problems encountered

^{1/} A more comprehensive study would encompass periods of credit ease as well. A broader discussion could provide greater perspective on the varied degree to which private housing production may be cyclically unstable among various countries. It would also delineate the manner in which these fluctuations may reinforce or offset other changes in aggregate demand in a nation's economy. For an analysis of these and other aspects in the United States, see Leo Grebler, Housing Issues in Economic Stabilization Policy (New York, N.Y.: National Bureau of Economic Research, 1960), Occasional Paper 72.

^{2/} Alexander Bajt, "Investment Cycles in European Socialist Economies: A Review Article," Journal of Economic Literature (March 1971), pp. 53-63. Although Bajt's article discusses construction of all types, a limited review of annual data on housing production in certain of these countries confirms his conclusions.

in analyzing this widespread phenomenon are discussed--namely, identifying periods of credit restraint and measuring declines in private housing production.

In Part III, there is a review of several influences that may help to account for differential patterns of housing experience among industrialized countries during periods of credit restraint. Separate sections include discussions of: (a) whether credit restraint may be transmitted more through credit availability or through credit costs; (b) the effect during periods of credit restraint of the behavior of industrial investment on housing production; (c) the character of institutional arrangements for financing housing; and (d) the demand for housing prevailing at the time that credit restraint is instituted.

A summary and conclusions are offered in Part IV.

II. APPROACHING THE COMPARATIVE STUDY OF CREDIT-AFFECTED HOUSING DOWNTURNS

A. Attention to housing and credit restraint

Foreign analysts have devoted little study to patterns of private housing production during periods of credit restraint. Attention to the subject has been confined largely to experience in the United States, and also in Canada and Great Britain.^{1/} Each of these countries

^{1/} For Canada, Lawrence B. Smith has written extensively; see his Housing and Mortgage Markets in Canada, Bank of Canada Staff Research Studies No. 6 (1970), and references cited therein. For Great Britain, see A.R. Nobay, "Short-Term Forecasting of Housing Investment: A Note," National Institute Economic Review (August 1967), pp. 41-49, and M.J. Vipond, "Fluctuations in Private Housebuilding in Great Britain, 1950-1966," Scottish Journal of Political Economy (June 1969), pp. 196-211. Additional references for these and other countries are given in Fisher and Siegman, "Housing and Financial Restraint . . .," op. cit., pp. 52-56.

has undergone several periods of credit restraint during the past 15 years or so.

But downturns in housing output during periods of credit restraint also qualify for study in a number of other industrialized nations, in view of the severity of individual cases of housing declines and the relatively large contribution of residential construction to total economic activity. More widespread concern about credit-affected housing downturns might be expected, indeed, if only because of the potentially adverse effects of housing downturns on costs and standards of living, labor mobility, and housing-related production, employment, and income.

Several reasons may be cited why little study has been given so far to the impact of credit restraint on patterns of housing experience in most foreign countries. First, secular housing problems--including housing "shortages"--have been predominant in many instances. As a result, short-term fluctuations in housing output have been considered of somewhat secondary priority for public concern. That particularly has been the case where these fluctuations have offset other changes in aggregate demand, thus contributing to over-all economic stability.

Secondly, many European economies have not experienced intense or long-lasting inflationary pressures during much of the period reviewed in this study. A number of important structural developments in some of these countries have allowed them to undergo rapid rates of economic growth while minimizing inflationary pressures.^{1/} The ability to shift a significant amount of resources from agriculture to the industrial and service sectors has contributed to the relatively favorable growth performance of their economies. So has the stimulus to productivity, competitiveness, and foreign direct investment provided by the process of economic integration in the European Economic Community and to a lesser extent in the European Free Trade Area. Since the late 1960's, however, the importance of these favorable influences has begun to wane. As economic expansion was accompanied by more severe inflationary pressures, the need for more intense credit restraint policies also emerged.

Interest in the subject of credit-affected housing downturns may well increase abroad as secular problems of shelter deficiencies lessen in the future, and as capital markets become more sophisticated, thereby making housing finance potentially more vulnerable and sensitive to changing credit conditions. Greater attention inevitably will be focused on this area if inflationary pressures should necessitate more frequent--or more severe or prolonged--application of general credit restraint than has been required in the past.

^{1/} Charles P. Kindleberger, Europe's Postwar Growth (Cambridge, Mass.: Harvard University Press), 1967; and Organization for Economic Cooperation and Development, Economic Growth 1960-1970 (Paris, 1966).

These and related changes undoubtedly would heighten concern about the varied sectoral impact of credit restraint and the structural barriers to flows of financial and real resources at times when credit conditions are tight. Also, they likely would encourage more detailed study of the cyclical multiplier effects housing production on general economic activity, as well as the impact of credit restraint on the market for used housing, particularly in nations where rates of population mobility and home ownership tend to be high. In addition, they hopefully would generate demands for more quarterly statistics on credit flows, housing production, and related indices. Such data could reveal the extent of cyclical changes more precisely than annual aggregates, which are the only statistics available in many countries.

B. Procedural problems in studying credit-affected housing downturns

In undertaking an analysis of the behavior of private housing production during periods of credit restraint, two important procedural difficulties are encountered. One problem is to identify relevant periods of credit restraint. A second problem relates to the identification and interpretation of data series which appropriately measure credit-affected private housing declines. The following two sections deal with these two issues.

1. Identifying periods of credit restraint. Unfortunately, no listing of periods of credit restraint appears to be available. In the United States and abroad, no agreement exists about exactly what constitutes "credit restraint" or how to date its initial and terminal

points. Nor is there any consensus about how to express the degree of intensity of restraint in any given period.^{1/}

Lacking any published benchmarks, dating of periods of credit restraint among various industrialized nations for comparative purposes is difficult. No common definition may be applicable to all countries. Selecting appropriate periods of credit restraint requires a careful examination of a range of possible indicators. These include policy announcements and policy actions as well as changes in the stock of money, or bank credit, or total free reserves, or bank reserves, and in both the price and the availability of credit and other terms of loan contracts in free as well as in controlled markets. Such an eclectic approach was generally followed for the purposes of this paper.

Fortunately, a dating technique of this sort, albeit subjective, may seldom produce much disagreement about which quarter of the year should be identified as an appropriate turning point of credit restraint. Any differences of opinion that do arise may have no great significance for analytical purposes in view of attention paid to quarterly (rather than monthly) patterns of residential construction so as to weed out random movements, and given the inevitable lags between changes in credit conditions and changes in private housing production.

^{1/} On these several points, see statement by George W. Mitchell in Standards for Guiding Monetary Action: Hearings, Joint Economic Committee of Congress (Washington, D.C.: U.S. Government Printing Office, 1968) and related materials in this volume. Also, see Board of Governors of the Federal Reserve System, Open Market Policies and Operating Procedures--Staff Studies (Washington, D.C., 1971).

Not all dating cases may be settled on such a basis, however. In some European countries, sizable inflows of short-term funds, attracted by exchange rate speculation or by differentials in interest rates among financial centers, at times have frustrated the efforts of public authorities to implement domestic monetary restraint effectively. In Germany, as noted earlier, large inflows of foreign funds during 1969 and 1970 overrode the attempts of the Bundesbank to curb inflationary pressures by adopting restrictive domestic credit policies. That episode, as a result, has been excluded from consideration as a relevant period of credit restraint in studying German housing experience.

In addition, isolated cases may have to be excluded for other special reasons. Strikes or one-time changes in building regulations may temporarily accelerate or depress housing production and unduly exaggerate or minimize any effects of credit restraint. Such special situations have been ruled out of scope, too.

2. Measuring declines in private housing production. Rigorous analysis calls for scrutiny of consistent quarterly data, adjusted for seasonal variation, where appropriate. The range of available series should be broad enough to reveal the varied degree to which credit restraint impinges on different subsectors of the mortgage market and the housing market, with associated leads and lags.

Some of the earliest and most volatile indications of the influence of credit restraint are likely to be reflected in the mortgage market by a decline in the seasonally adjusted rate of new commitments,

and subsequently in the housing market by a decline in the seasonally adjusted rate of private housing starts or residential building permits.^{1/} With variable lags, they may then show up in changes in other indicators as well.

In terms of patterns of housing production, however, quarterly data on new private housing production in selected industrialized countries often are hard to come by. Detail may not be available, either, to show output by type of structure (single-family versus multi-family) in nations where substantially different markets exist for each component. Only a few countries compile statistics that can reveal the differential impact of credit restraint on units started, units under way, units completed, or value of work. Each of these different dimensions of housing output may trace a different pattern of timing and volatility, depending on the unit composition of output by type of structure, the duration and severity of any given period of credit restraint, and other elements which remain to be explored.^{2/}

An examination of housing production during the most recent period of credit restraint in Canada, Great Britain, and the United States illustrates the variety of patterns that may develop. The seasonally adjusted quarterly rate of private housing starts dropped in each country

^{1/} Robert Moore Fisher, "The Availability of Mortgage Lending Commitments," Staff Economic Studies No. 54, Federal Reserve Board (December 1969).

^{2/} Recent experience in the United States is discussed in Bernard N. Freedman, "Private Housing Completions--A New Dimension in Construction Statistics," a Federal Reserve staff background paper (November 1971).

more sharply than the seasonally adjusted quarterly rate of units under way, units completed, or value of output, as shown in Table 2. In two out of three cases, housing starts turned down in the same quarter, or in an earlier quarter, than the other indicators; also, they generally terminated their decline sooner. The quarterly duration of declines registered by the various indicators showed no consistent pattern.^{1/}

In Canada -- the most extreme case -- seasonally adjusted housing starts fell at an average quarterly rate of 9 per cent during the latest period of credit restraint. By contrast, units under construction declined at an average quarterly rate of 4 per cent; unit completions, 3 per cent; and outlays, 4 per cent. Attention solely to the course of housing starts thus would have overstated the short-run impact of credit restraint during this period on the Canadian construction industry (as reflected in work under way), the availability of new dwellings to final users (unit completions), or the economy (value of output).

Much the same conclusion applies to experience in the United States during the 1969-70 decline in housing production. There, seasonally

^{1/} Inclusion of new mobile home shipments in the data shown in Table 2 would add another dimension to these patterns. During 1970, such shipments were equivalent to 4-1/2 per cent of all unit starts of public and private conventionally-built housing in Canada, and 27 per cent in the United States. Mobile home shipments in the United States have proved to be only slightly sensitive to credit restraint, reflecting their short-term sources of high-rate financing, low per-unit capital cost, and other factors. Inclusion of mobile home shipments with private housing starts in the United States during the 1969-70 downturn would reduce the 6 per cent average quarterly rate of decline shown in Table 2 to 5 per cent.

Table 2

Declines in Output of Private Housing Associated
With Most Recent Period of Credit Restraint
(based on seasonally adjusted data)

Country	Period	Decline		Average quarterly rate of decline
		Number of quarters	Per cent	
<u>Great Britain</u>				
Starts Under Construction	1968IV - 1970I	5	30	6
Completions ^{a/}	1968II - 1970II	8	18	2
Outlays	1968II - 1970II	8	25	3
	1968II - 1970II	8	13	2
<u>Canada ^{b/}</u>				
Starts Under Construction	1969I - 1970II	5	47	9
Completions	1969III - 1970III	4	14	4
Outlays	1969II - 1970IV	6	20	3
	1969II - 1970II	4	17	4
<u>United States ^{c/}</u>				
Starts	1969I - 1970I	4	24	6
Completions	1969I,II - 1969III	1	4	4
Outlays	1969II - 1970III	5	15	3

Sources: Great Britain: Directorate of Statistics, Department of the Environment, with units under construction seasonally adjusted by Federal Reserve; Canada: Cent Mortgage and Housing Corporation; United States: Department of Commerce, with completions seasonally adjusted by Federal Reserve. The periods of decline for each series extend from the highest level reached during period of credit restraint to the trough, which may be attained some time after credit restraint ended. The average quarterly rate of decline is not compounded.

^{a/} Break in series in 1970I affects total percentage decline slightly.

^{b/} Includes some publicly-owned units. In 1970II, there was a strike of construction workers.

^{c/} Data for units under way are not available prior to December 1969.

adjusted private housing starts fell at a quarterly rate of 6 per cent, whereas completions declined at a quarterly rate of 4 per cent (in only one quarter) and outlays, 3 per cent. Altogether, unit starts dropped 24 per cent; dollar outlays, 15 per cent; and unit completions, 4 per cent.

Available information suggests that the differential impact of credit restraint on these varied aspects of housing production may seldom, if ever, be the same from one downturn to another. During each of the four most recent episodes of credit restraint in Canada, housing starts invariably recorded the largest total percentage decline. But in one case (1965-on), units under construction and units completed exhibited larger average quarterly rates of decline than starts did, owing partly to the much shorter duration of declines in units under construction (4 quarters) and units completed (3 quarters) as compared with starts (6 quarters). (See Table 3.)

III. FACTORS INFLUENCING PATTERNS OF HOUSING EXPERIENCE DURING PERIODS OF CREDIT RESTRAINT

A. Credit availability versus credit costs

Credit restraint may impinge on private housing through shortages and high costs of construction credit, permanent mortgage credit, or both. Experience in the United States suggests that the availability of loans to finance the construction process during the most recent period of credit restraint (1968-69) posed no significant problem nationally in cases where permanent financing commitments would be found.^{1/} While the

^{1/} Robert Moore Fisher, "The Availability of Construction Credit for Housing," Federal Reserve Housing Study paper, October 1970. This record apparently contrasted with earlier postwar periods of credit restraint, when there were indications of some shortages of construction funds that were not directly related to the status of permanent mortgage financing.

Table 3

Declines in Housing Output Associated with the Four
Most Recent Periods of Credit Restraint in Canada
(based on seasonally adjusted data)

Years	Period	Decline		Average quarterly rate of decline (per cent)
		Number of quarters	Per cent	
<u>1955-57</u>				
Starts	1955III - 1957I	6	42	7
Under Con- struction	1956I - 1957I	4	23	6
Completions	1956II - 1957III	5	22	4
<u>1958-61</u>				
Starts	1958IV - 1960I	5	41	8
Under Con- struction	1959I - 1960III	6	33	6
Completions	1959II - 1961I	7	37	5
<u>1965-67</u>				
Starts	1965III - 1967I	6	32	5
Under Con- struction	1966I - 1967I	4	30	7
Completions	1966II - 1967I	3	27	9
<u>1969-70</u>				
Starts	1969I - 1970II	5	48	9
Under Con- struction	1969III - 1970III	4	14	4
Completions	1969II - 1970IV	6	20	3

Note: Based on housing unit data supplied by Central Mortgage and Housing Corpora-
tion. Periods of decline for each series extend from the highest level reached
during period of credit restraint to the trough, which may be attained some time
after credit restraint ended. The average quarterly rate of decline is not com-
pounded.

same general tendency may prevail in Great Britain, little information on this point apparently exists in other industrialized countries.^{1/}

The extent to which the availability of permanent mortgage financing -- rather than its cost -- has been the dominant restrictive factor accounting for declines in private housing output during periods of credit restraint in various industrialized nations is hard to assess. Since World War II, many countries have adopted subsidy programs and preferential tax treatment for housing, including measures designed to reduce effective interest rates paid by borrowers. In addition, when prices are rising, it is possible that market costs of mortgage credit may have assumed a more secondary role relative to the availability of such funds. Under such circumstances, of course, the "real" rate of interest has to be considered as the relevant variable. But distinguishing between the restrictive effects of high interest rates on the supply of mortgage credit as against the demand for mortgage credit has proved difficult, to say the least, in the United States.^{2/} The problem seems to be no different in analyzing foreign experience.

^{1/} On single-family homes, general credit stringency in Great Britain may limit funds for short-term construction loans--which are supplied chiefly by commercial banks--more than permanent mortgage funds which are advanced by building societies and others, according to Vipond, "Fluctuations in Private Housebuilding . . .," *op. cit.*

^{2/} See Lyle E. Gramley, "Short-Term Cycles in Housing Production: An Overview of the Problem and Possible Solutions," Federal Reserve Housing Study Paper (October 1971), especially pp. 13-22. Not to be overlooked is the behavior of yields on residential mortgages, relative to other capital market investments, in attracting funds from diversified lenders during periods of credit restraint. In the United States and Canada, gross yield spreads favoring conventional home mortgages over corporate bonds have narrowed substantially since the early 1960's, apparently reflecting both secular and cyclical influences.

An illustration of the complexity in separating the effects of credit availability versus credit cost in the mortgage market is provided by the unusual period of high and rising interest rates in Germany during 1969-70. Although interest rates reached new record highs during this period, credit availability was not successfully curtailed because inflows of funds from other countries continued large. Bolstered by substantial total flows of credit, housing activity increased slightly despite higher credit costs.

This special German episode, of course, cannot demonstrate how much stronger the demand for housing might have been if interest rates had risen less sharply. Nor can it quantify the effects of heightened inflationary expectations on housing demand at a time of increasing prices and rising interest rates. Nevertheless, it lends support to the tentative view that the availability rather than the cost of funds, was a major limitation on housing activity during this particular period in Germany. In fact, since credit availability was not effectively curtailed at that time, this case has been excluded from our analysis of relevant periods of credit restraint.

B. The effect of the behavior of industrial investment on housing

During recent decades, the pace of private residential construction during periods of credit restraint has moved inversely with the course of industrial investment in the United States as well as in a number of foreign industrialized economies. Contrasting these two important sectors of the economy may shed light on the influence upon private housing of credit availability and credit cost. It likewise may offer additional insight into why the private housing market experiences

a disproportionately severe impact of credit restraint.^{1/}

Private industrial investment typically can be financed with substantial amounts of internal funds. Indeed, the financing of investment by means of undistributed profits is fairly common in many European countries, and also is a significant source of investment capital in the United States. This particular source of finance does not necessarily dry up during periods of credit restraint.

Industrial investment draws on a wide variety of external sources of funds as well. This flexibility permits shifting, if need be, to short-term financing during periods of credit restraint, in order to wait out a time when longer-term funds may be more readily available at lower cost. In some industrialized economies, the availability of funds outside individual national capital markets--which may expand noticeably during periods of domestic credit restraint--further widens the range of sources of funds external to the firm for financing industrial investment.

In contrast, housing financing frequently relies quite heavily on external funds, and may have recourse to less diversified sources of external financing. Also loan maturities--usually carrying fixed interest rates^{2/} -- are much longer.

^{1/} For a more detailed analysis of investment patterns in the United States viewed from a broader perspective, see Robert Ferber (ed.), Determinants of Investment Behavior (New York: Columbia University Press for the National Bureau of Economic Research, 1967).

^{2/} In countries where variable interest rate mortgages are common--for example, Great Britain--mortgage rates are adjusted over time to changes in market interest rates. Although this arrangement may help to stabilize flows of funds for housing finance, evidence of its effect is quite limited. See Fisher and Siegman, op. cit., p. 31 ff.

Similarly, increased costs of funds during periods of credit restraint may be more easily absorbed in the case of industrial investment, owing to income or profit tax considerations, the possibility of increased business profits, and the large share of investment accounted for by short-lived equipment that can be written off fairly quickly. The demand for mortgage credit, on the other hand, may be affected much less by profit and tax considerations. Thus the cost of such financing is likely to play a more significant role in housing demand than in the demand for industrial investment.

For these and other reasons, demand for industrial investment may be less sensitive to periods of credit restraint than housing demand. At such times, industrial investment, in fact, may pre-empt both real and financial resources from the housing sector. In the United States, at least, "by its willingness and ability to bid financial resources away from the residential mortgage market during periods of credit restraint, the business sector enlarges its command over labor and capital -- and thereby increases its real output at the expense of housing construction."^{1/} To the extent that industrial investment proves to be a primary claimant on resources, patterns of housing output during periods of credit restraint

^{1/} Gramley, "Short-Term Cycles in Housing Production. . .," op. cit., p. 36.

may be influenced by the relative stability of industrial investment.^{1/}

C. Institutional arrangements for housing finance

The varied character of institutional arrangements used to mobilize savings and advance them against housing collateral is often said to account for differences in housing patterns from one country to another during periods of credit restraint. In practice, however, the record appears to have been quite mixed. Some countries with substantially different institutional structures seem to have experienced somewhat similar patterns of housing declines at times of credit restraint. Other countries, with much the same types of institutions, have experienced dissimilar housing cycles.

In Canada as well as in the United States, for example, private housing starts have declined sharply in periods of credit restraint during the past decade. Much the same patterns of housing production have emerged in both countries even though certain important features of the mortgage markets in the two countries have been quite different. Unlike the United States, Canada is noted for nationwide branch banking, and by the absence of rate ceilings on savings deposits, usury laws, and

^{1/} The same relationship may hold for nonmarket industrialized economies as well. Even in some East European countries, industrial investment may be favored through planning priorities at the expense of housing at times when real resources are under pressure. This possibility is not inconsistent with Bajt's observation that "there is a striking time coincidence among periods of fluctuation in investment, industrial production, and construction in nearly all of these countries." Bajt, "Investment Cycles in European Socialist Economies. . .", op. cit., p. 57. As noted earlier, Bajt includes in "construction" all forms of building activity--residential and nonresidential. Fluctuations in nonresidential construction expenditures--usually the favored type of activity in East European countries--may well offset contrary fluctuations in residential outlays.

geographical differences in laws affecting the origination or foreclosure of mortgages. Moreover, the Canadian mortgage market has been dominated by general-purpose rather than by specialized lenders.

The varied patterns of housing downturns that have emerged within industrialized nations thus raise the question whether any given source of loanable funds, or any particular degree of specialization in mortgage investment, can invariably assure protection against a shortage of new mortgage commitments at these times. A stabilizing feature of apparently greater importance has been the terms of any liabilities that are issued to raise funds for housing finance. The terms include offering rates as well as other features affecting turnover relative to the outstanding life of mortgage assets.^{1/} These characteristics, in turn, depend in some countries on the degree of preference or support afforded such liabilities through fiscal and/or monetary measures. Although measures of this sort usually have been adopted for secular rather than for cyclical reasons, they may help to stabilize the housing sector during periods of credit restraint.

The influence of these factors in affecting the severity of the impact of credit restraint on housing is perhaps most revealing in the case of Germany. Of all the countries included in Table 1, Germany has experienced the least intense credit-affected downturns in housing, as measured by the average quarterly rate of decline in private housing

^{1/} The effective terms of the assets used in mortgage financing--whether mortgages carry fixed interest rates or whether their interest rates are variable--also may influence the terms of liabilities issued to raise funds used to finance housing.

starts or residential building permits. A principal explanation for the relatively favorable German experience apparently relates to the particular institutional structure of housing finance, together with the comprehensive tax and interest incentives provided by the Government, which lead to a comparatively stable flow of funds for private housing transactions.^{1/}

D. Demand conditions for housing at time that credit restraint is introduced

Another influence affecting the volatility of private housing production during periods of credit restraint may be the strength of housing demand prevailing at the time that credit restraint is introduced. This aspect is conventionally measured inversely in terms of vacancy rates. Its significance in the United States is suggested by a recent econometric analysis of the cyclical declines in private housing starts during 1966 and 1969. The study concluded that ". . . while variations in financial flows through depository institutions were important factors in precipitating the drop in housing starts during the two periods, basic demand factors were instrumental in determining the severity of the decline. Relatively high vacancy rates in 1966 were largely responsible for the greater decline in housing starts during that period as opposed to 1969," even though "adverse financial trends were present in roughly equal intensity in both periods."^{2/}

^{1/} For further details on the above points, see Fisher and Siegman, "Housing and Financial Restraint. . .," op. cit., pp. 5, 7, 20-29.

^{2/} James B. Burnham, "Housing Starts in 1966 and 1969: A Comparison Using an Econometric Model," Land Economics (forthcoming).

There appear to be no comprehensive quarterly data on housing vacancies, or on vacancy rates, by type of structure in other industrialized nations. This represents a conspicuous statistical gap, not only for cyclical analysis but also for studies of such other aspects of the housing market as rent control and shelter standards.

IV. SUMMARY AND CONCLUSIONS

Lacking much previous study of the comparative experience of credit-affected housing downturns, many of the observations set forth in this paper represent more in the nature of hypotheses intended to stimulate further inquiry than firm conclusions backed by clear evidence. Given this limitation, our brief review of housing experience in certain industrialized nations during periods of credit restraint suggests the following observations:

1. Short-term declines in the rate of private housing production during periods of credit restraint are apparently a fact of life in numerous industrialized countries, although they have been insufficiently documented and analyzed in many cases.

2. Cyclical declines in private housing production have been recorded to some extent in various nations almost regardless of the prevailing types of institutional arrangements. This experience implies that there is probably no simple solution for eliminating credit-affected housing fluctuations altogether. One step in this direction, however, appears to lie in efforts to provide greater stability for flows of funds to mortgage lending institutions. To this degree, of course, other sectors of the economy may be affected by credit restraint more adversely than before.

3. The impact of credit restraint on housing production typically appears to bear most sharply on private housing starts. Other elements of housing output, such as work under way, completions, and outlays, usually seem to demonstrate more stable behavior than starts. Attention to all of these elements--plus surveillance of trends within the stock of existing housing--would be desirable for a comprehensive analysis of the impact of credit restraint on housing patterns.

4. Patterns of housing downturns-- no matter how measured-- have differed in degree from country to country, as well as from cycle to cycle. Some influences undoubtedly contributing to this differential behavior have included the intensity and duration of credit restraint, the nature of monetary and fiscal housing-support measures, the relative stability of industrial investment, the character of institutional arrangements for mobilizing and advancing funds for housing, and the strength of housing demand.

5. Additional analysis of comparative cyclical experience should be encouraged. Such work could clarify the common as well as the special elements underlying this widespread phenomenon.^{1/} It could also provide a better understanding about the complex interrelationships prevailing between demand management policies, capital market developments, and the behavior of markets for used as well as for new housing.

^{1/} For some background discussion, see Arthur F. Burns, "Long Cycles in Residential Construction," in Economic Essays in Honor of Wesley Clair Mitchell (New York: Columbia University Press, 1935), pp. 63-104, and D.I. MacKay, "Growth and Fluctuations in the British Building Industry," Scottish Journal of Political Economy (February, 1967), pp. 80-87, a review of J. Parry Lewis, Building Cycles and Britain's Growth (New York: Macmillan, 1965).