COUNTERCYCLICAL STIMULUS FOR RENTAL HOUSING: AN INTRODUCTION

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FOREWORD

On August 31, 1982, the U.S. General Accounting Office issued to the Chairman, House Committee on Appropriations, a report entitled "Analysis of Options for Aiding the Homebuilding and Forest Products Industries" (GAO/CED-82-121). The report analyzed the causes of the current downturn in housing construction and compared a broad sample of homeownership and rental housing stimulus proposals in terms of their feasibility, speed of implementation, impact on construction and employment, and cost effectiveness. A special analysis of the problems of the forest products industry was also presented.

In conjunction with that effort, on June 29, 1982, GAO conducted a symposium on countercyclical stimulus for multifamily housing. During that symposium, a large number of the Nation's leading housing experts discussed the key countercyclical housing stimulus issues and evaluated the most significant options for aiding the homebuilding industry. This report contains a summary of the day's proceedings as well as the papers presented at the symposium.

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INTRODUCTION

The homebuilding industry is in the fourth year of a deep recession. Construction starts in 1981 reached their lowest levels since 1946, with little relief in sight. Unemployment among construction workers accounts for one-tenth of the Nation's jobless total and is twice the national average. This is particularly disturbing since problems in the homebuilding industry affect other sectors of the economy. In particular, the housing recession has depressed the forest products industry, where production and employment have declined since 1978.

In an April 26, 1982, letter to us, the Chairman, House Committee on Appropriations, expressed concern over the Nation's continuing economic recession. The chairman stated that the protracted recession in the housing industry and the effect of monetary and fiscal policies on interest rates were of major importance to the Nation's economic health and requested us to conduct two comprehensive reviews dealing with these issues. The first review was to involve an assessment of existing Federal policies relating to home construction, including a discussion of alternatives for reviving the homebuilding and forest products industries. The second review was to be an analysis of the Nation's monetary and fiscal policies, including suggestions for change. 1/ This

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1/"Analysis of Options for Aiding the Homebuilding and Forest Products Industries" (GAO/CED-82-121, August 31, 1982); "An Analysis of Fiscal and Monetary Policies" (GAO/PAD-82-45, Aug. 31, 1982).

symposium was held as part of the housing and forest products study and the papers presented here formed an important part of our research.

The homebuilding industry is important to the Nation's overall economic well-being for several reasons. Residential construction is a major industry, usually accounting for 4 to 5 percent of the gross national product (GNP). Before the current recession, it provided employment for about 3 million workers. The level of homebuilding affects other industries, including lumber, masonry, steel, glass, and consumer durables. For example, softwood lumber used for residential construction declined from 18.5 billion board feet in 1978 to 9.4 billion board feet in 1981. At its peak, residential construction has consumed over 40 percent of the Nation's softwood lumber output. Finally, the homebuilding industry has tended to behave countercyclically--that is, to counterbalance the ups and downs of the economic cycle. Historically, the industry has often preceded the rest of the economy into both recessionary downturns and periods of growth.

Homebuilding has often behaved countercyclically because of its sensitivity to the cost and availability of credit, coupled with its size and effects on other economic sectors. During inflationary periods the demand for credit rises, driving up interest rates. This is often accompanied by restrictive monetary policy, which is designed to reduce inflation by further tightening the availability of credit. Because both the homebuilder and home buyer rely heavily on credit, the result is a housing downturn

which spreads to other sectors of the economy. The general economic downturn which follows usually has been accompanied by easier credit conditions and lowered interest rates. As this occurs, the housing industry revives rapidly and leads the way out of the recession. Although this pattern has been characteristic of previous recessions, financial deregulation and a variety of changes in the economy have led many people to doubt that the present homebuilding cycle will follow the historical pattern.

Concern over the crisis in homebuilding has given rise to intense debate over what actions, if any, the Federal Government could or should take to aid the troubled industry. Not everyone is in agreement as to what should be done. The administration, for example, has stated that there can be no sound and stable housing industry without a sound and stable economy. It rejects short-term emergency Government intervention on the grounds that it would likely fuel inflation and thereby harm the economy as a whole. The administration and others have pointed out that housing is only one of many industries that are currently feeling the impact of the Nation's economic recession, and they question why one industry should be singled out for help when so many others are likewise hurting.

Many members of the Congress and some industry groups feel differently--that the economy is dependent to a large degree on homebuilding and that to provide aid to homebuilding will be beneficial to the economy as a whole. Many different proposals have thus been advanced and are being contemplated. They vary

widely in terms of their probable effectiveness, cost, and ease of implementation.

When approaching the topic of countercyclical stimulus to rental housing, one is immediately faced with the irony that although homeownership subsidies may be the better prospect for quick stimulus to the housing industry, preserving and adding to the stock of moderately priced rental housing may be the more urgent housing need during the next decade and that low- and moderate-income renters are generally in greater housing need.

Homeownership has become the dominant form of tenure for American households, but its popularity and demand have also helped drive up the cost of land, labor, and materials for rental housing. The tax deductibility of mortgage interest coupled with home appreciation has opened a substantial gap between the attractiveness of ownership versus rental housing, thus depressing the value of rental housing relative to owner-occupied housing. This has created a strong incentive to convert units, where possible, from rental to owner-occupancy. Little incentive exists to develop additional rental units except where the demand for rental housing is unusually strong.

In spite of major gains in the quantity and quality of the rental housing stock over the last 20 years (much of it encouraged by Government programs), the rental housing stock is no longer growing quickly and much of the moderately priced stock is in need of repair. Many low- and moderate-income households cannot easily afford their present rents, let alone those needed to provide

adequate investment returns for new rental housing or to support renovation. Recent sharp increases in the real cost of ownership will put added pressure on the rental stock as many choose renting over buying. However, the gap between rents needed to encourage development and what tenants can or will pay will make it difficult for the market to respond with additional rental housing. Although rent levels are currently rising somewhat and recent tax law changes are encouraging investment in existing rental housing, these trends are unlikely to help low- and moderate-income renters who will be less able to afford increasing rents and are also unlikely to induce new construction.

Rental housing developers are highly sensitive to factors other than financing costs, such as inflation in operating costs and the ability to pass these on in rents, which affect cash flows and the after-tax return on investment. These circumstances, in turn, probably preclude any rapid construction response to shallow stimulus proposals for rental housing. There are, however, several kinds of rental housing activity which have the potential to respond quickly to stimulus, but which have generally not been the subject of full-scale Federal intervention. These are the

--conversion of buildings from nonresidential to residential use or subdivision of larger housing units into smaller rental units,

--development of small rental buildings with a few units where the development and construction process is similar to single-family housing,

--moderate rehabilitation of rental housing in substandard condition, and

--conversion of unsold ownership housing to rentals.

These are probably the areas in which the private market will attempt to respond to rental needs without Government assistance and which are most likely to provide reasonably priced rentals affordable by many moderate-income households. Federal subsidies in these areas could be used as leverage to assure some continued availability of such housing to low- and moderate-income households.

Past research has also shown that subsidized substantial rehabilitation is more costly 1/ and clearly less effective per dollar in adding to the stock than new construction. Therefore, we attempted to focus the proposals analyzed in our symposium on less costly, more rapid kinds of development which would still serve the longer term housing needs of the Nation.

Regardless of whether new construction or rehabilitation is undertaken, a subsidy program which allows occupancy by nonneedy households should probably provide as shallow a subsidy as possible. A subsidy which is too shallow may have no effect at all, but deep subsidies encourage expensive construction and wasteful rehabilitation, meaning higher rents and much less chance of availability to moderate-income renters in both the short and

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1/"Section 236 Rental Housing--An Evaluation With Lessons for the Future" (PAD-78-13, Jan. 10, 1978), p. 121.

long term. Better units will be much more likely to be converted to ownership in the future.

EVALUATION CRITERIA

In this symposium we analyzed proposals to spur new construction and rehabilitation of rental housing through a variety of loans, grants, and tax incentives. The major criteria used for comparing the proposals were:

--adequacy of builder incentives,

--speed of implementation and market response,

--cost to the Government,

--targeting, and

--likelihood of substitution.

THE PROPOSALS ANALYZED

The proposals we analyzed were suggested by a variety of housing experts, Department of Housing and Urban Development (HUD) officials, lobbyists, builders, and other researchers. Some proposals which seemed totally unworkable or ineffective in the short run were eliminated, while others were altered to better target them and to limit their costs. All proposals would require that at least 20 percent of the units be set aside for low- and moderate-income households. Several bar conversion to condominiums for a period of 15 years, which should be considered in any rental subsidy program. All proposals analyzed required start of construction after program initiation and completion before January 1, 1984.

The following table summarizes the characteristics of each of the multifamily rental housing proposals, including subsidy and recapture mechanisms, mortgage limits, targeting provisions, and other features.

Stimulus Proposals for Multifamily Rental Housing

	Basic Subsidy Mechanism	Recapture	Mortgage or Subsidy Limits	Time Targeting	Household Targeting	Other Provisions
Shallow Tandem	4% Interest Rate Reduction by GNMA Discount	15 Years, Full Principal and Interest at Treasury Rate	$40,000/Unit	Start After Passage But Before 6/30/83	20% Units to Households Under 80% of Median Income	New Construction; Substantial Rehabilitation; Conversion to Residential Use
Interest Reduction Loan	Loan for 4% Interest Reduction; Second Lien	15 Years, Recapture Limited to 60% of Increase in Value	"Modest Design" $40,000/Unit	Same as Tandem	Same as Tandem	Same as Tandem
Mortgage Revenue Bonds	Tax-Exempt Bonds	None	None	Same as Tandem	Same as Tandem	15-Year or Longer Ban on Conversion to Condominiums
Investment Tax Credit	10% Credit to Developers	None. Could Require Reduced Basis and Recovery Through a Capital Gains Tax	$4,000/Unit	Same as Tandem	Same as Tandem	None
Rental Housing Assistance Grants S.2171	Grants to State & Local Governments	Recapture Encouraged But Not Mandatory	No Direct Limits Although Limits Would Probably Be Advisable to Control Cost	None	Same as Tandem	"Severe Rental Shortage"; Overcrowding; Substandard Housing; Eligible Households
UDAG Housing Supplement	Competitive Awards	None Specified	$10,000/Unit ($5,000/Unit National Average)	Same as Tandem	Same as Tandem	15-Year Ban on Conversion to Condominiums
Accelerating Pipeline (Chiefly Section 8)	Increases Allowable Rents & Subsidies (FAF)	None	None	Second Half of 1982	Section 8	None

Shallow Tandem

The shallow Tandem program would enable developers to borrow funds for rental housing projects at significant discounts, which would be absorbed initially by the Government National Mortgage Association (GNMA). Such discounts would then be repaid by borrowers when a project is eventually sold or refinanced. More specifically, monthly payments on these discounted loans would be based on a sufficiently low rate of interest (not lower than 11 percent) to provide satisfactory debt service coverage from operating revenues of newly developed projects. A balloon payment large enough to recover the discount absorbed by GNMA at the time of origination, plus deferred interest on the discount, would be required after 15 years or if projects were sold or refinanced. Because this proposal requires that the initial discount is to be repaid with interest, there may be little or no direct subsidy associated with this proposal.

Interest reduction loan

The interest reduction loan proposal is similar to the shallow Tandem approach; however, it involves an explicit subsidy to developers. Essentially, developers would make first mortgage loans at current interest rates and simultaneously make second mortgage loans equivalent to one-third of interest requirements on the first mortgages. These second mortgages would be made available as long as current interest rates exceed 14 percent. Interest costs on the second liens would be compounded at the Government borrowing rate but would be deferred and become due as a balloon payment after 15 years, or sooner if projects are sold or refinanced. However,

amounts due on such second liens would not exceed 60 percent of the appreciation of value in excess of cost of projects developed under this program. Because of this limitation, some portion of the subsidy is likely not to be recovered.

Tax-exempt mortgage revenue bonds (MBR's)

Although tax-exempt MRB's currently provide below-market financing for rental housing, the 1980 Mortgage Subsidy Bond Act reduced their usage by imposing stringent income targeting. Further, the slow issuance of regulations by the Department of the Treasury has discouraged use of these bonds. This proposal suggests the following changes in the act: (1) assisted projects could convert to condominiums once half the subsidy period has expired (but not in less than 15 years), (2) the definition of target areas in which restrictions are relaxed would expand to include those where there is a continuing crisis of affordable mortgage credit which jeopardizes the housing industry, and (3) tenant income limits would be increased from 50 percent to 80 percent of area median income (this restriction applies to only 20 percent of the units).

Investment tax credit

This proposal provides a 10 percent investment tax credit on direct project costs (in excess of land cost) to developers of rental housing. However, the investment tax credit proposal would limit these credits to $4,000 per unit constructed. This is the only proposal considered that would utilize a direct reduction in taxes as an incentive to stimulate production.

Rental rehabilitation

Rental rehabilitation could be used as another approach for stimulating rental housing. Under the Urban Development Action Grant (UDAG) program, developers could obtain grants for up to $10,000 per unit. Subsidies would average $5,000 for the program as a whole, however. All UDAG regulations regarding matching private financing and neighborhood targeting would still apply in establishing whether such grants should be made. A second option in this direct grant approach is patterned after S.2171. 1/ It would provide funds for loans, grants, interest reduction payments, and land acquisition grants to be made by State and local housing agencies. Projects selected for subsidies under the latter proposal would be based on a number of considerations including elimination of housing shortages, project cost, neighborhood development, and the likelihood of loan repayment. HUD officials advised us that they planned to support some form of rental rehabilitation program.

Section 8 pipeline

The section 8 pipeline involves increasing the financial adjustment factor (FAF) for section 8 projects which have HUD

1/For a detailed analysis of this bill as originally introduced, see CED2-158, letter report to Senator Christopher J. Dodd, April 13, 1982. The rental rehabilitation proposal now being considered by Congress is substantially different.

contract rent commitments, but not firm financing commitments. Funding commitments were lacking primarily because of high tax-exempt bond interest rates, which, in turn, resulted in high debt service requirements relative to fair market rents currently allowed by HUD on such projects. Increasing the FAF would amount to a higher rental subsidy commitment from HUD, thereby enabling higher debt service commitments to be covered from current operating revenues. This would allow development of more section 8 projects currently in the HUD-approved "pipeline."

SYMPOSIUM ON COUNTERCYCLICAL STIMULUS FOR MULTIFAMILY HOUSING: SUMMARY OF DISCUSSION

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When does a deviation from a long time flywheel and relatively smooth curve of events signal the end of the era--and the beginning of a new reality? The nearly two generations of post-World War II America have seen our Nation shift from a domination of rental facilities to homeownership. By the end of the 1970's, approximately two-thirds of all American households owned their own shelter accommodations. For 50 years, increasing housing ownership was seen as a prime target of Federal and local legislation for all those who possibly could afford it--and in some sad cases those who could not--with enough in the way of residual Federal support dollars to provide significant subsidies for rental housing for the less affluent.

A vast upgrading of America's shelter provisions took place only in part as a function of targeting, but much more so as a result of an effective filtering down process. This permeated practically our total society, with even those at the bottom of the scale typically able to secure physically more adequate and certainly less crowded accommodations.

This was not achieved through a smooth flow of housing production but rather using the housing industry as a principal tool of countercyclical economic tuning. Thus a boom-bust cycle--from 2 million plus units per year down to barely half that level--was not atypical in the era of housing plenty. In general, however, the downturns were relatively brief; the upsurges enormously fruitful. The sum total of these events was a housing delivery system which was the envy of the balance of the world.

The erosion generated by long-term inflation has seemingly ended the confidence in the stability of the dollar, which is

essential for fixed rate long-term lending. The stabilization and, in many cases, the decline of the housing buying power of American households is increasingly viewed not as a temporary aberrant, but as a measure of our economy which may require long years of rectification. In real terms, median family income in the United States increased 38 percent in the fifties and by a third in the sixties--only to recede by approximately 5 percent in the decade prior to the conference. The fears of crowding out, given the levels of deficit which we are presently experiencing, have left little in the way of special incentives for housing and its countercyclical role.

Given these realities, the housing industry as a whole is floundering and the building materials industry, as would be anticipated, is similarly impacted. Unemployment in these sectors and related areas has soared to near-Depression levels.

The papers developed for the conference were focused by design on one segment of the housing industry--that of multifamily units. Although certainly discussed by several of the participants, the areas of market demand measurement and need criteria are being developed separately. Thus, while these aspects were touched on, they were not the primary focus. Rather, the conference centered on six proposals geared toward increasing the production of multifamily housing. These proposals are described in the introduction to this document. It should be noted that the proposals, while reflecting specific advocacies, are also essentially generic, i.e. they raise points of view which certainly would underlay additional alternatives. They are therefore of interest in themselves as well as providing insight to the field in general.

The material which follows attempts to summarize the formal comments and general oral discussion based on the papers presented. This is far from an easy task. The paper presenters, the discussants, and the audience as well truly represent the state of the art. The caliber of the last group particularly provided a richness of vision and experience that made the discussion fruitful.

Each of the several papers is worthy of intensive study and analysis. The discussion summary presented here is in no way a surrogate, nor a precis of their rich offerings. It is, rather, an effort to bring the reader some of the interplay of various points of view on common topics and to give some insight, if in faltering fashion, to the positive dynamic which enhanced the understanding and broadened the perceptions of all the attendees. Rather than attempt to "add up" the preferences of the papers or their discussants, the presentation below has been partitioned by substantive area.

Targeting and the function of the legislation

The primary target of the several proposed elements of legislation--in terms of what it should or could be--had been deliberately limited, at least as a primary subject for the discussion. Clearly, however, some of the programs discussed, such as the clearance of the section 8 pipeline, have built-in targeting. Others were more general in their potential end result in terms of shelter provision.

There was a general consensus that if production were the sole criteria, then targeting should be minimized. The title of the program, i.e., the inclusion of the term "countercyclical," indicates the dominance of this factor at this time. There was, further, a feeling that if one wanted to optimize not merely the speed of

throughput but also the cost per unit of throughput, then targeting should be minimized. The general consensus was that shallow subsidies obviously would have far more impact for facilities and sites which were near market than for those which would require deep support per unit in order to bridge a very large gap between a weak market and cost realities.

Clearly the decision levels here are complex. Is the function of the ultimate program to provide housing? Housing for a select set of individuals? Housing at a specific price? Housing to be allocated to areas in which present facilities are inadequate? Housing for areas in which future demand is relatively evident? Housing to sop up unemployed workers within the trade? Or within subsets of that trade (i.e., the mechanical trades are much more evident in larger scale high-rise construction, much less so in garden apartment equivalents)? Or simply housing as a counter-cyclical tool for an economy which is not responding to the earlier packages of incentives which have been offered?

These were all issues which underlay the discussion and periodically surfaced as well. The general feeling was that some measure of political specification is needed to ascertain where the country as a whole and its economic functions stand, along with projected directions over time with which to provide some measures for priority making.

Labor versus capital intensive programming

The issue of the rival virtues of housing programs in terms of their labor versus capital intensive nature, often over simplified into a discussion of rehabilitation versus new construction, has long persisted. In part, the conceptualization has been faulty. Rehabilitation is often envisioned as far more labor intensive than

is new construction. Certainly, that is the case when rehabilitation attempts to fit new components into old structures. Factored into this, however, should be the issue of labor that has gone into components manufacture. While off-site generation of such components is often less labor costly than on-site repair, the number of hours of labor, given relatively low pay scales for off-site components, may be far from inconsiderable.

If these elements are considered when calculating the total construction costs, the odds are fairly high than rehabilitation would still have both more dollars and more hours of labor per total dollar project value than holds true for new construction. The gap, however, may not be quite as blatant as some of its advocates have indicated.

Within this context, the question of which of these several program alternatives would generate the cost labor demand was raised, when advocacy expressed for public housing rehabilitation, the section 312 program, and others. Much more analysis is required, however, before a definitive answer can be given, even assuming that this is a dominant criterion. New construction, particularly in lightweight low-rise structures, may be better able to integrate the work of unskilled employees than holds true for substantial rehabilitation. The latter, often coping with stuctures which are out of square, requires competent workmen capable of substantial discretion. At least large-scale new construction can afford the cost of work simplification and the training of relatively unskilled individuals.

While these elements should be kept in mind, generally looking only at the broad frame would favor programs which provide rehabilitation.

Regional disparities

One of the major goals announced in the early days of the New Deal and now reaching fruition 50 years later was a concerted effort to raise the income levels and living standards of the American South. The shifts in relative wealth, growth patterns, income levels, and cost structures, which have since taken place on a regional basis, have caused some measure of alarm in the older slow-growth sections of the country. This has occurred even though by many criteria, they are still more affluent than the newly risen South. The market flywheels now in motion tend to favor growth. Thus, as our speakers pointed out, to these changing market realities, one must also compare the market response to market rate housing in a city such as Detroit, which has lost a third of its population in a generation, to the reception in a high-growth Southwestern community. Light subsidy programs in the latter case might be very fruitful and quickly adopted by the market. In the former, conversely, they could have little meaning. Certainly, as a number of the speakers noted, if the level of housing starts on a regional basis, as well as on central city, suburban, and non-metropolitan bases, are reviewed, this is clearly the case.

Thus, unless there is area targeting, given the relatively small subsidy support prods that are envisioned, the fear of the "rich getting richer" on an area-wide basis was voiced continuously. To this, clearly, must be linked the issue of relative unemployment rates. They are much higher in impacted areas than those external to them. Yet those same impacted areas, by very definition, have much less in the way of market vigor with which to capitalize on new governmental initiatives on multifamily housing.

While targeting, or the lack thereof, is a partition which runs through many of the substantive areas, its significance was stressed in specific areal context.

In general, the response of the discussants who were troubled by this was to highlight the possibilities of block grants for multifamily housing rather than broad-brush enabling legislation. This was coupled with measures, such as the rehabilitation of public housing, which by their definition and shaping would tend to settle more gracefully on impacted areas.

The variations in market rent levels and construction costs by area were touched on. Certainly, the past experience in the sections 235 and 236 programs--with the former yielding eight times as many units on a per capita basis in the South (at least in the early stage of the program) than held true in the North--gives warning of the need to take a more system-oriented approach in a country as diverse as the United States. While there has been substantial homogenization of cost-structure since that time, this is still an evident limitation in the minds of the discussants.

Demand market and penetration in the eighties

The broad generic issue of housing demand and its underlying demographics was outside the purview of the committee. However, to provide a setting for the multiplier effect of market forces and the degree to which they would complement the several incentive approaches, some measure of specification was discussed. There was agreement that generalizations of housing consumption behavior predicated upon the seventies were probably most misleading when applied to our own decade.

The seventies were characterized in the early part of the decade by the ratio between housing costs and incomes at its most

salubrious level. When this relationship degenerated after the recession of 1974-75, there is clear evidence that one-family housing demand was buoyed up by its increasingly dominant role as a buffer against the ravages of inflation.

In a sense, increases in housing price, rather than turning the consumer to alternative forms of shelter, merely rationalized the decision to acquire homeownership, regardless of immediate burden. The concept became deeply embedded in the consumer that housing prices had only one way to go--up. Further, the post-inflation, post-tax costs of housing ownership were far lower than equivalent rentals.

Thus, the seventies saw a vast cream skimming of the market, in which all types of family configurations, with no exception, tended to evidence greater market penetration by homeownership as against rental.

There was general agreement that these conditions clearly have been altered by the economic realities of the early eighties--with some feeling that they were going to continue into the future. Multifamily housing, therefore, whether for ownership or rental, was essentially the more modest configuration of shelter which would increase market share in the years immediately to come.

Condominium versus rental

In years past, multifamily housing was synonymous with rental housing. As was pointed out by a number of participants, this is no longer the case with roughly half of multifamily units erected in the last year dedicated to condominium sale. Indeed, in many cases, the line between the two formats is obscured: developments which are nominally dedicated for condominium use--if they meet market resistance--not uncommonly are rented. In many cases,

condominium units are bought by absentee investors and subsequently rented.

While at least one or two of the observers raised the issue of whether we should ultimately be fostering condominium versus rental equivalent configurations, the bulk of opinion suggested that these were not necessarily competing entities.

A number of commentators suggested that condominium conversion might be viewed as one important element in the life cycle of multifamily construction, i.e., that units might be constructed initially as rental with a possibility of condominium conversion down the road. In turn, this process might very well lower the initial financing requirements since it would provide, even at discounted terms, some assurance of a take-out mechanism and recapture of equity through a broadening of the market secured by the condominium potential. Thus, the multifamily condominium was viewed by some as the replacement to the modest-level freestanding tract house--as the "starter house" of the future. But this, as we shall see, will require some assurance that the conversion potential will be legally available rather than being intruded upon by local government.

The new fiscal calculus of multifamily financing

A number of observers commented that the near doubling of depreciation rates for multifamily housing had yet to be factored into the investment calculus by the finance community, and that these were substantial enough when fully recognized to overcome many of the current difficulties seemingly felt by the market. However, as suggested by one of our speakers who had done modeling on the approach, even factoring this element in did not yield appropriate market rents. It was further pointed out that there

have been substantial changes in equity requirements for multi-family housing. These latter have increased very substantially, serving as a significant offset to the new depreciation schedules.

Outside of our domain was the issue of whether accelerated depreciation could or should be permitted for all, or any, distinct parts of multifamily housing starts, assuming an appropriate holding period and conversion to condominium status after that time. While this would impose some immediate monetary burdens upon the Treasury, these should be minimized with the condo conversion, assuming owner-occupancy. Certainly, accelerated depreciation would provide some very generous incentives for construction, given the modest number of years that are presently required for full depreciation.

Rent control pressures and the "new" property

There was a general consensus among all of the participants that as long as rent control existed, either as a reality or as a potential threat, there would be decided reluctance on the part of the investment community to get involved with multifamily housing development. The stress was not only on current rent controls in particular communities, but on the potential threat of it in the future.

In an environment where risk-free investment is available well into the the double digits, it was generally agreed that it made little sense to move to an alternative in which the rates of return and ultimate resale values could be threatened by local public action.

The same stipulations applied to inhibitions on condominim conversions. Conversion potential was viewed as broadening the resale market, providing greater liquidity to the multifamily

housing as an investment vehicle, as well as stimulating the potential for recapture of equity in the course of paying down a mortgage.

The growth of a bifurcation in the property interest, whereby a tenant develops a property interest through occupancy (sometimes referred to as a statutory tenancy in New York City), clearly inhibits the development of new multifamily rental properties and impacts the future regardless of whatever limited protection it may give current occupants. Thus, the consensus of the group was that incentives should be viewed with a stipulation that rent control potential be obviated.

Substitution effect

A key criterion addressed by the conference attendees was whether any of the several programs would merely provide substitutes for what the market is either currently providing or will provide in short order. The impact of this characteristic is all too clear in the history of housing subsidy programs. Under President Ford, for example, a modest incentive program for home buyers was set up by the Federal Government in an effort to reduce a buildup of one-family homes. A later study indicated that to the buyers who qualified for this program, the results were essentially a windfall, i.e., that practically all the purchases would have been made regardless of the subsidy element.

Within the context of the programmatic approaches which were specified, a key criterion, therefore, was producing forms of housing which otherwise would not be built and therefore would not compete with market offerings. But this was only one aspect of the substitution issue: yet another was employment.

In the classic housing studies of the Douglas and Kaiser Commission days, one of the issues addressed was a potential

shortage of skilled housing construction workers. Both commissions raised the issue of whether government housing programs would create an excess demand and thus shortages of such individuals.

A number of the discussants characterized our present situation as one of drastic over-capacity of entrepreneurs, labor, and means of production (other than money). In essence, therefore, there was no fear of heating up the market through multifamily housing subsidies.

Much more important, however, and a key focus of the discussion, was the issue of financial crowding.

Financial substitution

A very vigorous debate occurred over the issue of whether the pool of funds for multifamily housing finance was essentially a closed loop--and if so, to what degree government-subsidized units would, by very definition, absorb capital which would make resources for non-subsidized equivalents scarcer and more costly. Again, this was a most useful heuristic in appraising the several programs. In the course of the discussion, the point was made that the conventional market is a much more limited entity than the equivalent market for government-guaranteed indentures. Therefore, by supporting housing with government funds, the nominal housing finance market and the institutional funding pool become available to a much larger potential level of investors.

While the virtues of this procedure from the viewpoint of housing were evident, it raised questions about the priority of housing within a nation seeking reindustrialization. A number of our speakers pointed to Congress and the administration clearly favoring a shift toward non-housing activities in the Economic Recovery Act. Indeed, some observers have raised the issue of

whether too much of America's resources have been absorbed by housing in the last several years.

The complexity of resolving this issue is very clear. The principal international success stories among developed nations, namely Japan and Germany, have been expending far greater proportions of their total GNP (no matter how measured) for housing than holds true in the United States--and this is a decade-long trend. On the other hand, as is well known, our savings rate is roughly a third of Germany's and perhaps a quarter to one-fifth of Japan's. The issue of national priorities was, by the specifications of the conference, outside the primary target area of the participants--but nevertheless was debated with vigor.

The suggestion was made that the area of multifamily housing finance shared a classic domain with other forms of rental property. At least, in the past, this would include such elements as financing for office buildings, shopping centers, and other income-producing "commercial" real estate. In this sense, viewing the financial market for multifamily housing as limited strictly to the residential sphere is undoubtedly fallacious.

In recent years, commercial lenders have moved from multifamily lending to the greater returns and lesser risks of these alternate forms of real estate investments. However, an abrupt downturn has taken place in the latter, including the demise of the shopping center boom and the near crash in office construction. Thus, at least the potential exists for securing funds for the multifamily housing sector which otherwise would have gone into these alternatives.

Current estimates, for example, indicate a downturn on the order of 100 million square feet of office construction in

this year. If we assume approximately $50 a square foot for the financing which would be attached to this construction, then, other elements being equal, a $5 billion displaced potential realty "pot" would be provided.

The broader sphere of the overall economy and the impact of fostering housing within the relatively tight broad national financial markets was debated with some measure of vigor. Programs expanded by virtue of diverting resources for housing (i.e., principally government-guaranteed paper and/or borrowing) were frowned upon as possible competitors to areas that conceivably should be of higher priority. Certainly, within this latter context, dividing the Nation's financing resource sector into watertight components is highly artificial.

The criticism of housing's potential crowding effect clearly must be viewed within the context of the balance of financial markets.

At the time of the conference, the level of government deficit that is to be financed was reasonably clear. The issue of just how much in the way of industrial financing would be crowding to the lending window, however, was far less precise. While not directly addressed by the conference attendees, it is evident that a stimulus for multifamily housing will be forthcoming if the expected industrial boom does not take place. Given the present status of the latter, the issue of crowding may, sadly enough, turn out to be moot.

Control versus as-of-right incentive programs

There was a lively discussion on what criteria should be applied to the proposed programs. One of the parameters explored was the issue of as-of-right programs versus those which are

controlled in scale, substance, and typically in target as well. While the specific issue of targeting is discussed elsewhere, the consensus seemed to be that as-of-right minimized, by very definition, the administrative regulations and many of the red tape constraints which have either delayed the onset and/or limited the implementation of programs. The problem, however, as seen by some of the critics, is the vast budgetary uncertainties which are attached to this kind of apparatus. In a time of budgetary unease, this was considered much too dangerous a procedure.

Scale of the operation

Within this context, the several alternative devices were quite distinct in character. Some, like the section 8 pipeline speed-up, were clearly finite by very definition. Others, depending upon how they are to be structured, could conceivably be much more open-ended in character. The suggestion was made to evaluate per dollar spent, regardless of the budget level decided by the law. Proposals such as the investment tax credit and the expensing of construction costs were specifically viewed as relatively uncontrollable.

Is there a competition between one-family incentives and those for multifamily housing?

This topic was addressed at some length. The consensus of our speakers was that, politically, one would probably require both. While there is certainly not an infinite number of dollars available, the different forms of shelter are less than complete financial market competitors. Finally, the new market realities, particularly with the condominium which could be viewed as a hybrid of the two dwelling types, suggest that programming in these areas

could be viewed as complementary rather than as either competitive or absolute alternatives.

Speed of implementation

The participants in this conference had substantial experience in the time lags which have accompanied other forms of government subsidization both in housing and other sectors. The comment was made that the administrative regulations for section 8 had taken the better part of 2 years to evolve. Further, the Ford administration's incentives for new home buyers clearly did not become effective until after the crisis to which they were addressed had passed from view.

There was general agreement that any program requiring major new administrative regulations or the equivalent simply did not meet the necessities of the moment.

Even the UDAG mechanisms which required a competition were viewed with some measure of alarm on this criterion. Within this context, projects or programs that were presently in the pipeline and which could be accelerated met the greatest level of favor. Particularly singled out were: clearing the pipeline of section 8 projects, implementing a backlog of State housing finance agency activities, possibly some measure of attention to section 312, and outside of the seven programs which had been specified--the possibility of accelerated modernization for public housing.

The limitations of the art form in predicting with any measure of precision and security what is immediately deliverable, was made evident in the discussion on this last point. One of the participants, for example, noted that many of the public housing authorities are already awash in unspent money and show an alarming

inability to come to grips with their own practical necessities despite on-hand resources.

The criterion is not merely nominal mechanisms and units in the field, but also a sense of capacity and willingness to move rapidly in implementing them.

Windfalls and wipeouts

There was a strong feeling among many of the participants that windfalls, as a function of government subsidy programs, were to be avoided wherever possible. In essence, this would involve a program which provided incentives to housing that were superfluous to returns which would be appropriately competitive. To the degree that the public expenditures and/or enabling elements are superfluous, they provide an inordinate bonus. A number of speakers, however, raised the point that the windfall recipients of previous housing programs were frequently highlighted in the press and congressional hearings while those who went broke, sometimes in the very same programs, were soon forgotten. Real estate development has proven to be a very high-risk business. This in turn requires relatively high rates of return, particularly in an era in which virtually no-risk indentures are available at very high yields.

The very definition of windfall was briefly touched on. The comment was made that section 8 new construction not atypically was yielding units somewhere in excess of 20 percent over the market despite the nominal assurances in the program to prevent this inflation. Whether this is representative of a windfall per se or rather a sad commentary on the structuring of the program's incentives, which encourage building to the top dollar permissible and give no incentive for efficiency, was outside the purview of the session. But it was a chastening reminder of the difficulties of

structuring equitable housing incentive programs whose excesses would not bring them tumbling down.

The relative demerits of windfalls vs. justifiable but excessively costly programs need additional delineation.

"The best is the enemy of the good" is an addage with practically an infinite number of exemplars but certainly few are so clear cut as in housing and land development generally. The effort to develop programs which are ideal in terms of all of the several parameters discussed above carries such a heavy burden as to be self-defeating.

The title of the conference is relatively monolithic, focusing as it does on countercyclical stimulus. Yet most of the seven programs advocated are designed with other criteria as well.

The shallow subsidy, for example, as pointed out by a number of our speakers, has no area targeting but incorporates a stipulation that 20 percent of the units go to households under 80 percent of median income. The bulk of our speakers, voicing experience derived from similar programs, suggested there was only limited success to be gained from such programming detail. In essence, the 4 percent below market interest rate program merely served as an offset for the earmarked units, leaving the others at essentially an unaided market rate which simply by the very reason for this meeting--the need for countercyclical stimulus--would not meet the consumer test.

The interest reduction loan is a similar form of subsidy which has similar stipulations in terms of subsidy limits and targeting but adds as a further encumbrance the possibility of a recapture--assuming that the project works well and implictly that inflation makes it all worthwhile. From the viewpoint of the moralist--and

possibly a political point of perspective as well--this is desirable. From the viewpoint of the market, it's so uncertain as to raise some issues in the minds of our commentators as to its utility.

The mortgage revenue bonds have the limitation of coming into being in a market already crowded with their peers, within which the gap between fully taxable and tax-exempt has gone to near all-time lows. Thus, the level of support (i.e., interest cost reduction) is not too dissimilar from that of the two elements above with the same stipulations in terms of occupancy. But their impact upon the Federal fisc is all too obvious.

The investment tax credit is a simpler device limited to units of $40,000 or less, i.e., a $4,000 per unit credit with the same stipulation in terms of occupancy.

Both of the rental housing assistance programs--the Dodd Bill, as well as the UDAG housing supplement--have the same tenant occupancy provisions. The former uses CDBG local targeting; the latter, the broader criteria of some measure of working program in the community in question.

Thus, for our countercyclical dollar, we are also attempting to secure housing for the specifically needy, at least in part. Efficiency per se, in terms of our stipulated target or countercyclical activity, is uneasily harnessed in the same traces as housing for the less affluent. It may well be that this is a political necessity. The limitations, however, in terms of the nominal goal of the meeting, i.e., countercyclical stimulus, are evident.

None of these programs are new in their concept--their track records are more than a little limited, however.

The consensus of the participants called for a clearing of the section 8 pipeline as a fast-start procedure. The Dodd bill and the UDAG approach split the vote as a second choice.

The lack of enthusiasm for the other programs foucsed on their high effective costs and on severe doubts as to how rapidly they could be implemented.

MULTIFAMILY HOUSING IN THE 80'S: MARKET TRENDS AND COUNTERCYCLICAL STIMULUS OPTIONS

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This paper analyzes several options for increasing the production of rental housing. It is divided into two parts. The first section looks at the history of multifamily housing starts over the past five years and discusses possible lessons which can be drawn as we examine the question of increasing rental starts in 1982, 1983 and 1984. The second section discusses each of the options and ranks them against the criterion of which alternative will produce starts and therefore jobs the quickest. The conclusions are those of a developer and not an economist or a public policy analyst.

MULTIFAMILY HOUSING THE PAST FIVE YEARS

The traditional way of dividing the housing stock is to refer to it as either single family or multifamily. In most people's minds, single family has meant owner occupied and multifamily has meant rental. For example, look at the way that this symposium has been divided. This relationship between tenure and building type is not accurate and is becoming less so each year.

For example, 26 percent of all rental units in the United States are in single family detached homes, 58 percent are in one to four unit buildings and 80 percent of all rental units are in buildings which contain 20 or fewer units. 1/

Further, the performance of the market over the past two years indicates that more than 50 percent of the privately

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1/U.S. Department of Commerce, Bureau of the Census, Annual Housing Survey: 1980, Part A (Washington, D.C.: U.S. Government Printing Office, 1982).

financed multifamily units constructed were built for owner occupants and not renters. Rental starts are declining absolutely and perhaps more important they are more than offset by conversions to condominiums and cooperatives. Finally, for the past two years, subsidized rental housing accounted for more than 50 percent of all rental units started. (See Tables 1, 2, and 3). These two year results are a continuation of a five year trend.

There are many reasons why fewer privately financed rental units are being built and why those previously built are being converted to owner occupied units. Though they have been discussed in great detail elsewhere, I would like to review them here because of their importance in considering the various options.

Over the past five years, the cost of developing housing units has risen dramatically because of higher costs for construction, land and financing. The cost of operating units has also risen significanlty because of much higher energy and labor costs. When translated into rents, the cost of renting a new unit has often increased to the point where those who can afford to pay it prefer, because of the tax laws and the social pressures of their peers, to purchase.

Table 1

Comparison of Conventional Rental to Condominium and Cooperative Starts 1977-1981

Year	Total Conventional Rental and Condo/ Co-op Starts	Rental		Condo/Co-op	
		Number	Percent	Number	Percent
1977	389,500	298,500	76.6	91,000	23.4
1978	399,300	268,300	67.2	131,000	32.8
1979	375,100	202,100	53.8	173,000	46.2
1980	273,500	110,500	40.4	163,000	59.6
1981	256,300	97,300	38.0	159,000	62.0

Source: Bureau of the Census, Construction Report, C-20.

Table 2

Net Additions to Privately Financed Rental Stock 1977-1981

Year	Total Conventionally Financed Rental Units 1/ (1)	Conversion to Condo & Co-op 2/ (2)	Net Rental Added (1-2)
1977	298,500	45,527	252,973
1978	268,300	80,334	187,966
1979	202,100	150,000	52,100
1980	110,500	130,000	(19,500)
1981	97,300	85,000	12,300

1/Bureau of the Census, Construction Report, C-20.

2/Data for 1977 through third quarter of 1979. Division of Policy Studies, Office of Policy Development and Research, Department of Housing and Urban Development, The Conversion of Rental Housing to Condominiums and Cooperatives.

HUD estimates that 38 percent of all condos and co-ops are actually rented.

Table 3

Comparison of Private Versus Subsidized Rental Starts, 1977-1981

Year	Total Rental Units Started	Private		Subsidized	
		Number	Percent	Number	Percent
1977	459,800	298,500	65	161,000	35
1978	471,800	268,300	57	203,500	43
1979	392,900	202,100	51.5	190,800	48.5
1980	297,400	110,500	37	186,800	63
1981	220,000	97,300	44	122,700	56

Sources: Bureau of the Census Construction Report C-20. Office of Housing, Department of Housing and Urban Development. Office of Finance, Farmer's Home Administration.

There are two primary advantages to purchasing, rather than renting. First, unlike renters, owners can take advantage of the tax laws. Second, owners at least have the hope of realizing a "profit" from appreciation. At the very worst, homeownership is a form of forced savings; even if the net of tax savings and appreciation is less then the investment, some of the latter will be returned at the time of sale. In this sense, owner-occupants are both developers and consumers of housing services. Renters, on the other hand, are consumers only and are lucky to get their deposit back when they move.

It can be argued that renting is cheaper than owning if all homeownership costs are considered. Thus, renters could invest these savings in other more lucrative investments. However, as the cost of renting increases, these savings, which have been marginal, essentially disappear.

On the supply side, developers are attracted to build owner rather than multifamily rentals. First, they do not have to

worry about rent control which is in force or being seriously discussed in over 200 local jurisdictions. Given the higher costs and shrinking markets described earlier, many developers are unwilling to take the risk of political restrictions on their ability to pass on higher than expected costs.

Second, unlike rental projects, condos and co-ops offer the opportunity to realize a return on investment in 18 to 24 months with little or no continuing responsibility on the developer's part. While the sale of tax shelter, which is one of the primary motivations to build rental housing, brings returns to the developer in 3 to 5 years from the start of construction, the developer/general partner retains a fiduciary responsibility to the limited partners for 15 years or more and often is responsible for making up operating deficits during that time.

Finally, several key housing market characteristics of the past decade--rising costs; shrinking markets; political uncertainty; and just as important, the willingness of consumers to buy multifamily owner-occupied units; new and favorable attitudes on the part of lenders toward this type of "single-family house"--have all combined to encourage developers to build multifamily owner units rather than rental housing.

These factors condense into two reasons for the downturn in the number of rental multifamily unit starts. First, this type of housing confronts the same financing problems facing all housing. But perhaps more importantly, the long-standing American preference to own has become possible and desirable in buildings which previously contained only rental units.

The conclusions to be drawn are also twofold. If the aim is to produce multifamily starts quickly, at least part of the effort

should be designed to encourage multifamily homeownership because there are strong indications that both the supply and demand sides of the housing market seem to favor this tenure type. Second, to encourage multifamily rental starts, we may have to reverse this market reality.

THE OPTIONS

In this section, each option is evaluated according to how quickly it would produce the most starts, and therefore the most jobs. Before discussing each proposal, several observations are in order. First, all of the options are not aimed at producing the same type of housing. It appears to me that they fall into three broad categories: (a) those that will produce moderate-income rental housing in projects of 75 to 100 units; (b) one that would produce 100 percent subsidized housing; and (c) those that would tend to be used to build or rehabilitate smaller rental projects, primarily for moderate- or low-income families.

Second, they are not mutually exclusive; it may be that more than one or all of them may make sense for different types of housing in different market areas.

Third, all of them are limited to rental units. With one exception (i.e., the option that would produce 100 percent section 8 projects), all of the options could be used for both owner and rental housing. For the reasons discussed earlier, I think that this flexibility should be maintained.

To assist in my analysis, I have developed a prototype unit which sets out costs and rents and provides a basis for projecting the incomes of those who would rent units financed by some of the options. It is virtually impossible to develop a prototype which fits all situations and I do not claim that this one

does. It is, however, based on recent history. In order to present the lowest cost alternative, the prototype is low rise and of modest construction. (See Table 7.)

The option which will produce the most starts the quickest is the one that proposes to fund the current section 8 pipeline. This requires that there be enough section 8 money to increase the rents to the point where they will cover the higher debt service requirements caused by the higher interest rates.

This option will bring units on line the quickest for several reasons:

a. The land is owned or under option by the developer;

b. zoning and other local approvals are in hand;

c. final plans and specifications are completed;

d. contractor prices are finalized;

e. most HUD approvals have been obtained;

f. most of the developers and contractors are experienced and working with a process that they know.

The Dodd Bill, S. 2171, is the second best propoal for producing units quickly if it is changed to permit all multifamily production and rehabilitation and is not limited to rental units. As noted earlier, market forces argue against limiting the assistance to rental. Income eligibility rules need not be modified or varied for renters versus owners. A renter and owner of the same income would seem to have the same level of need. Further, from the perspective of producing jobs, an owner-occupied dwelling will produce as many jobs as a rental unit.

Localities and States have their own pipelines which, in the case of cities, they have built up over seven years of experience

with community development (CD) and 312 rehabilitation, and in some limited instances, with new construction. Many cities have experienced staff who act as "originators" and packagers of housing deals. In short, the cities have constructed a delivery system that produces housing and could produce a lot more if the funds were available. Many cities have moved beyond the point of trying to encourage owners to rehabilitate, contractors to work on the jobs, and private lenders to provide funding; many actually have backlogs which they cannot fund.

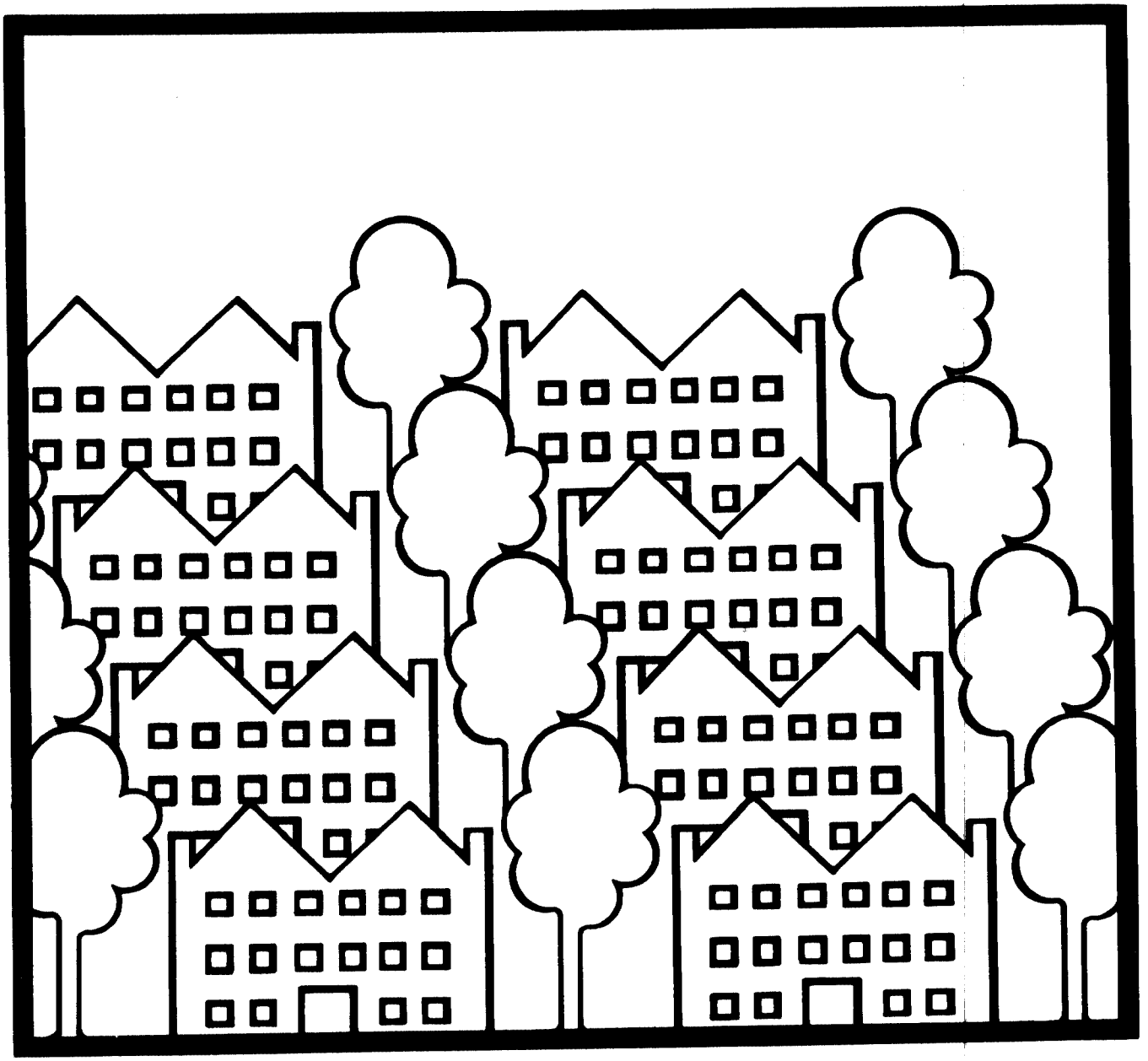
State housing agencies have an even longer history of producing housing. While, as will be discussed later, their ability to issue tax-exempt bonds alone is not enough to produce rental housing, that ability if combined with the funds from this bill, would allow them to make financing available. This could encourage the development of affordable rental housing.

It is also important to note that over the past several years, a large housing rehabilitation industry has emerged in virtually every part of the country. This industry produces hundreds of thousands of jobs (often for inner city residents), thousands of "new" units, and is often the catalyst for neighborhood revitalization. In some respects, the recent high interest rates have been even more devastating on this new industry than on the equally hard hit, new-construction suburban industry which is a much older industry. The new industry is in many senses a creation of the efforts of the city programs that this bill would help.

The Dodd bill establishes dollar targets against which cities would submit projects to the area offices. If a city did not submit a project, it would not be tying up funds as would be the case if program funds were allocated on an entitlement basis. The

Symposium On

Countercyclical Stimulus Proposals For Multifamily Housing



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House version, which is similar to the UDAG Alternative under consideration, would require that cities submit projects as part of a competition that would take place on either an area office, regional, or national basis. I do not believe that this approach is as efficient as the Senate version for the following reasons. First, housing markets tend to be localized and it is difficult to imagine what comparability tests could be designed that would either be fair or effective. This would be the case even if two cities submitted competing proposals to rehabilitate buildings of the same condition and cost, and were designed to assist people of the same income. If this relatively straightforward comparison would be difficult, it would be even more problematic to choose between two (much less 10) proposals--one for new construction and the other for rehabilitation, one to assist families and the other elderly. Judging the relative impact on the neighborhoods is also a serious concern.

Beyond funding the section 8 pipeline then, giving as much money as possible to the next largest pipeline, the ones built by the cities and States, ranks second as the fastest way to produce housing starts and jobs.

There are three options whose effects would be quite similiar and will therefore be discussed together. These are the Shallow Tandem for Multifamily Rental Housing, the Interest Subsidy for Multifamily Rental Housing, and Mortgage Revenue Bonds for Multifamily Rental Housing. All three could be very effective if they were modified to permit the construction or rehabilitation of owner-occupied units. Because of the way that they are structured, however, I doubt that many rental units would be produced quickly.

Let us examine the question of their ability to encourage the production of rental units. As Table 4 indicates, the cost of producing a multifamily low rise unit is about $49,500. With 90 percent financing the mortgage would be $44,500, operating costs about $2,500 a year, and the vacancy rate about 5 percent. Given the permanent interest rate and term stated or implied in the three proposals, the debt service reflected in the rents would be as follows for each of the proposals:

Table 4

Debt Service Requirements for Selected Proposals

Program	Interest Rate (percent)	Term in Years	Cost per thousand per month	Debt Service in Rent
Tandem	11	40	$ 9.29	$413.40
Interest Subsidy	10	40	8.50	378.25
Mortgage Revenue Bonds	14	30	11.85	527.91

Note: The interest rate shown is the lowest possible for the first two alternatives. The interest rate for the mortgage revenue bonds is probably a little low at this point.

The resulting monthly rents are shown in Table 5.

Table 5

Monthly Rents for Selected Proposals

Program	Debt Service	Operations	Vacancy	Return on Equity	Total Monthly Rent
Tandem	$413.00	$208	$20	$20	$661
Interest Subsidy	378.00	208	15	20	621
Mortgage Revenue Bonds	528.00	208	25	20	781

The annual incomes required to support these rents are shown below in Table 6.

Table 6

Annual Incomes Needed to Support Rents for Selected Proposals

Program	Percent of Income Spent on Housing			
	25	30	35	40
Tandem	$31,726	$26,440	$22,662	$19,830
Interest Subsidy	29,808	24,840	21,291	18,630
Mortgage Revenue Bonds	37,488	31,240	26,777	23,430

Table 7

Prototype Unit

Unit description	
Two bedroom	
Woodframe, wood siding	
One bath	
900 square feet	
Development costs	
Construction cost	$28,500 1/
Soft costs	11,000
Architectural	
Construction financing	
Financing fees	
Insurance	
Taxes	
Legal	
Title and recording	
Land	10,000 2/
Total development cost	49,500
Equity @ 10%	4,950
Mortgage	44,550
Annual operating costs	2,500
Taxes	
Insurance	
Utilities	
Maintenance	
Reserve for replacement	
Management	
Vacancy factor	5 percent
Return on equity (exclusive of tax syndication)	15 percent

1/Add 10 to 15 percent for the Middle Atlantic and New England and subtract 10 percent to 20 percent for the South.

2/This figure is very tight for Washington, D.C., proper and the close-in suburbs. It also indicates that one of the tradeoffs for choosing low-rise construction with its relatively lower construction costs is higher per unit land costs which often means that the choice of developers is to build in outlying areas where land is cheaper. This may hold down housing costs but creates many of the other costs associated with sprawl.

I believe that in most markets, it would be difficult to find enough people with sufficient incomes who could or would rent at these prices. Those who could afford these rents would probably buy for the reasons discussed in the beginning of this paper.

On the other hand, I believe that most markets contain enough people with sufficient incomes who would purchase such units if they were offered with the same financing outlined in these three options. Therefore, I suggest that the proposals be modified to permit ownership. This approach would permit the market to decide whether rental or owner units would be built. It is important to note that this revision assumes that people of the same income would be served whether the units were owner or rental. However, given the structure of the options presented and the incomes required to support the units, my guess is that people with these incomes would choose to own.

The last option presented is an investment tax credit. I do not believe that this will stimulate the production of rental housing by itself. The $4,000 tax credit per unit is worth $8,000 to someone in the 50 percent plus tax bracket. In the unlikely event that the entire $8,000 was used to reduce the mortgage shown in the prototype, the result would be a mortgage of $36,500. If the unit was financed conventionally, the rate would be at least 15 percent and the term would be at best 20 years. This would mean a debt service payment of $508 per month and a total rent of $725 per month. For the reasons given earlier, I do not think that there is a large market for rental units at this cost.

AN ANALYSIS OF COUNTERCYCLICAL STIMULATION OF MULTIFAMILY HOUSING IN THE CURRENT MACROECONOMIC ENVIRONMENT

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Introduction

The spectre of continued high interest rates hangs heavy over the land. Interest rate sensitive sectors of the economy, including housing, automobile production and consumer durables are in a deep recession. Efforts in many areas are being pursued to alleviate the effects of high interest rates on particular sectors of the economy, ranging from the Lugar bill for housing currently being debated in Congress to calls for import quotas or tariffs from the automobile and steel industries. Each of these proposals has merits in terms of the benefits that can be derived for both consumers and producers in the economy. However, given the size of the current budget deficit and the demands the Federal government is making on the credit markets, subsidies for all sectors of the economy cannot go forth at once. Therefore, it is necessary to examine the principal problems affecting various sectors of the economy and identify whether countercyclical aid is necessary to that sector and if so what form should such aid take.

These questions are asked about multi-family housing in this paper. In order to answer these questions it is useful to first provide a brief overview of the state of multi-family housing production. The first section of this paper will provide an overview of multi-family housing production and a discussion of the principal problems affecting this sector of the economy. The second section of the paper will discuss the pros and cons of multi-family stimulus programs. This section will relate trends and outlook for multi-family housing with other sectors of the economy (in particular single-family housing) and discuss the problems inherent in timing and

targeting countercyclical programs. The third section of the paper will identify the principal stimulus programs, the extent to which they address the problems identified and how they compare in terms of potential effectiveness and cost. In the conclusion, several other proposals for stimulating multi-family housing production will be mentioned.

Overview of Multi-family Housing

In discussing multi-family housing, it is useful to distinguish between rental and owner-occupied forms of tenure. External forces, such as interest rates and tax advantages, differentially affect these types of production. In addition, it should be emphasized from the outset that subsidy programs addressed to one part of the housing market (rental versus owner-occupied; single-family versus multi-family) cannot be considered in isolation because there are spillover effects and interactions between all types of housing and between housing and other types of investment.

Nationally, the rental housing stock increased in both quantity and quality during both of the last two decades.[1] The constant dollar net stock of rental housing increased by 32 percent between 1960 and 1970 and by over 18 percent between 1970 and 1979. However, the constant dollar net stock of owner-occupied housing increased by more than 42 percent during the 1960's and by over 37 percent between 1970 and 1979.

The differential in the growth rates of owner-occupied and rental housing reflects several factors, including rising incomes, inflation and

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[1]For more detail on trends and condition in the rental housing market, see U.S. Department of Housing and Urban Development, Office of Policy Development and Research, "Rental Housing: Condition and Outlook," September, 1981.

the tax preferences accorded to owner-occupied housing. During these two decades, homeownership became an increasingly attractive investment due to capital gains and tax savings, and many households switched tenure. This tenure shift led to a decline in effective rental housing demand which, in turn, eventually led to reduced levels of rental starts, more rapid depreciation and abandonment in the lower quality stock and increased conversion of the higher quality stock to condominiums and cooperatives as suppliers adjusted to changing market conditions.

Multi-family production did not begin to respond to the shift in demand until the 1970's, as shown in Table 1. Multi-family starts peaked during the 1968-1972 period and declined from those levels throughout the decade. It is likely that the 1968-1972 time period was one of abnormally high levels of new multi-family construction (over 42 percent of new starts in each of these years) due to expectations of continued population growth and the impact of federal subsidy programs. This period represented the greatest level of federal involvement in new construction and therefore should not be viewed as a benchmark from which to make comparisons about multi-family starts. Levels of new multi-family construction fell sharply during the recessionary period from 1974 to 1976. However, the proportion of total starts in the form of multi-family housing has risen steadily since 1976. In addition, the proportion of GNP in multi-family residential construction has been relatively constant since 1976.

The mix between condominium and rental tenure in multi-family construction has also shifted sharply during the last decade. Table 2 shows that 1972-1980 breakdown of multi-family starts between these two forms of tenure.

Table 1

Private Housing Starts
(in thousands)

	Total Private	Single Family	Multi-family	% Multi-Family
1965	1,473	964	509	34.5
1966	1,165	779	386	33.1
1967	1,292	844	448	34.7
1968	1,508	899	609	40.4
1969	1,467	811	656	44.7
1970	1,434	813	621	43.3
1971	2,052	1,151	901	43.9
1972	2,357	1,309	1,048	44.5
1973	2,045	1,132	913	44.6
1974	1,338	888	450	33.6
1975	1,160	892	268	23.1
1976	1,538	1,162	376	24.4
1977	1,987	1,451	536	27.0
1978	2,020	1,433	587	29.1
1979	1,745	1,194	551	31.6
1980	1,292	852	440	34.1
1981	1,087	706	381	35.0

Source: Construction Reports, Series C-20, Housing Starts, Bureau of the Census, Department of Commerce.

Table 2

Rental and Condominium Private Housing Starts: 1972-1980
(in thousands)

Year	Private Multi-family Starts	Private Rental Starts	Condominium and Cooperative Starts	% Condo
1972	1,048	758	290e	27.7
1973	913	660	253	27.7
1974	450	320	130	28.9
1975	268	223	45	16.8
1976	376	285	64	17.0
1977	536	445	91	17.0
1978	587	456	131	22.3
1979	551	378	173	31.4
1980	440	277	163	37.0

[e]HUD estimate.

Source: Construction Reports, Series C-20, Housing Starts, Bureau of the Census, Department of Commerce.

After falling in the recession years of 1975-76, the proportion of multi-family units built for sale purposes has increased up to a 1980 proportion of 37 percent. This figure may be an underestimate if many rental units are built for subsequent conversion.

The condominium conversion phenomenon also appeared in the 1970's. As nominal housing costs rose while real after-tax homeownership costs fell, many households may have avoided cash flow problems by purchasing condominiums. In addition, many households satisfied a demand for urban living while obtaining the benefits of homeownership by purchasing converted rental units. A survey by the U.S. Department of Housing and Urban Development indicated that between 1970 and 1979, 1.3 percent of the nation's 1970 occupied rental housing stock had been converted to condominium and cooperative ownership.[2]

The increase in the proportion of total starts in multi-family form since 1975 has been in part due to an increasing proportion of total multi-family starts that are federally assisted. Table 3 shows the Federal shares of housing starts by units in structure between 1970 to 1980. The share of multi-family starts that have federal involvement has risen steadily from a low of 14.3 percent in 1973 to the current level of 41 percent in 1980. Because federal involvement is almost exclusively for rental housing, the proportion of new rental units with government involvement in 1980 was

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[2]The net effect on the rental housing stock is reduced, of course, to the extent that households switch tenure. See U.S. Department of Housing and Urban Development, Office of Policy Development and Research, "The Conversion of Rental Housing to Condominiums and Cooperatives: A National Study of the Scope, Causes and Impacts," June 1980.

Table 3

Federal Shares of Housing Starts,
by Units in Structure, 1970 to 1980

	Share of Single-Family Starts Which Are		Share of Multifamily Starts Which Are		Share of Total Starts Which Are	
	Federally Subsidized	Federally Ins/Guar	Federally Subsidized	Federally Ins/Guar	Federally Subsidized	Federally Ins/Guar
1970	21.3%	21.9%	39.1%	6.5%	29.3%	15.1%
1971	18.1	22.8	23.7	10.8	20.6	17.4
1972	13.3	16.8	14.9	7.7	14.0	12.7
1973	7.9	11.8	10.6	3.7	9.1	8.1
1974	5.0	14.2	11.6	3.0	7.3	10.4
1975	5.5	16.4	20.8	4.3	9.2	13.5
1976	6.1	15.0	21.5	8.7	9.9	13.4
1977	6.6	15.4	21.9	7.7	10.8	13.3
1978	6.7	14.8	28.8	5.2	13.3	12.0
1979	7.5	18.4	30.3	3.8	14.8	13.7
1980	9.7	21.5	33.4	7.6	18.0	16.6

Source: Data Compiled by Housing and Demographic Analysis Division, Office of Policy Development and Research, Department of HUD, from HUD, FmHA/USDA, VA, and Census/DOC Reports.

over 60 percent. This proportion has been rising due to declining private, unsubsidized new construction as the level of subsidized units has been relatively stable. The decline in the private market share of rental construction reflects both the supplier response to declining rental housing demand and the substitution of federally assisted construction for private, unsubsidized construction. This substitution principally occurs when federally assisted projects compete with unsubsidized projects for conventional sources of mortgage money.[3]

The fall in unsubsidized rental housing production, the rise in condominium and cooperative production and the accelerated pace of condominium conversion are all consistent with the hypothesis that households took advantage of low real after-tax costs of homeownership by purchasing more owner-occupied housing during the 1970's. The demand for owner-occupied and single-family housing directly contributed to a weak demand for rental housing which, in turn, contributed to falling real rent levels.[4] Falling real rent levels, coupled with rising operating and financing costs led to a virtual cessation of new rental construction in many areas. However, for a variety of reasons, equity investments in existing rental housing continued to be profitable until late in the decade. This is because factors other than current net operating income contribute to yield on rental

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[3]See Murray, M., "Subsidized and Unsubsidized Housing Starts: 1961-1977," unpublished manuscript, June 1980.

[4]Estimates by Ira Lowry indicate that real rent levels fell about 8.4 percent between 1960 and 1980. See I.S. Lowry, "Rental Housing in the 1970s: Searching for the Crisis" in J. Weicher, K. Villani and E. Roistacher ed., Rental Housing: Is There a Crisis, The Urban Institute, 1981, pp. 23-38.

investment. In designing stimulus programs, it is important to identify all the factors that influence the rate of return on rental investment.

In particular, four other factors influence yields. They are (1) tax benefits, (2) leverage, (3) financing costs, and (4) anticipated price appreciation. Each factor contributed to yield on equity, and therefore to demand for existing rental properties, even though it did not directly affect net operating incomes. Tax benefits, principally accelerated depreciation, helped offset low net operating incomes because losses allowable for tax purposes benefit high-bracket investors who shelter other income. Leverage results from borrowing most of the cost of each investment. It multiplies the positive effects of depreciation and increases in property values because investors receive tax benefits and capital gains on borrowed as well as equity funds. Investors during the early to mid 1970s were able to borrow up to 80 percent or more of the total investment. In addition, many properties benefited from declining real rates of interest due to the prevelance of long-term, fixed-rate mortgages in the late 1960s and the 1970s. Lenders made loans at rates which failed to anticipate rising inflation. Therefore, borrowers with such mortgages benefitted from falling real mortgage payments. Investors anticipated price appreciation due to the possibilities of converting rental units to condominiums and through the growth in the demand for units in desirable areas.

Will these trends continue? Most likely they will not. Rents can be expected to rise in the near future for several reasons. First, renter demand will increase during the next few years due to pressures from new

household formation.[5] In addition, high interest rates will keep many potential homebuyers in the rental market. These demand increases will tighten many renter markets, leading to rent increases. Because rents have generally lagged inflation, while construction costs and interest rates have increased substantially due to inflation, rents will have to rise significantly in order to generate new construction. Therefore, there is likely to be a lag in the response of new construction to rising rents. However, rising rents will generate increased supply from the existing stock through division of larger properties into smaller units, through conversion to residential from non-residential uses and the rehabilitation and upgrading of existing properties.

Both rental consumers and suppliers will respond to rising rents. With rising housing costs, household formation will be slowed, reflecting later independent household formation and more doubling-up (less single individual households). In addition, there will be pressure to economize on space generally, resulting in more splitting up of large units and more construction of smaller units. "Non-new" creating, which was very significant for rental units in the later 1970s, will increase with rising rents.

If the demand for homeownership remains strong, condominium production and conversion will remain strong forces in the multi-family market. However, high mortgage interest rates coupled with a reduction in the tax

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[5]However, by the mid-1980s the rate of household formation is likely to fall for demographic reasons thus reducing the rate of increase in the prime renting age group. See J. Pitkin and G. Musnick, "Projections of Housing Consumption in the U.S., 1980 to 2000, by a Cohort Method," Annual Housing Survey Study No. 9, U.S. Department of Housing and Urban Development, June 1980.

advantages for homeownership due to the cuts in the marginal tax rates incorporated in the Economic Recovery Tax Act of 1981 may reduce overall homeownership demand. The net effect on condominium demand is difficult to forecast given the potential substitution of condominiums for larger single-family homes discussed above.

While the demand for rental housing and possibly the demand for condominiums will be relatively strong over the first part of the decade, multi-family investment will only take place if the risk adjusted after-tax rate of return can draw sufficient funds into the market. One factor contributing to yields is net operating income, which may rise in the 1980s due to increased demand for rental housing. However, this rise in rents may be inhibited by the imposition of or fear of rent control. With the decline in the level of federal housing subsidies, the pressure for redistribution on a local level will grow more intense.[6] The pressure for rent control reflects in part the fact that the renter population became increasingly concentrated in the lower end of the income distribution in the 1970s. However, in the 1980s this pressure will be somewhat eased by the re-emergence of middle-income and upper-income renter households. It is this group that new rental production is generally targeted for and with the increase in the real after-tax costs of homeownership, many of the households will either choose or be forced to be tenants.

Tax advantages to rental investment were significantly improved in absolute terms by the Economic Recovery Tax Act of 1981. The reduction

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[6]For more on this subject, see Lea, M., "Rent Control as Income Distribution Policy," Real Estate Review, 12, Spring 1982: 79-82.

in depreciable life from an average of 30 to 35 years to 15 years will increase the present value of depreciation benefits by 50 percent for new rental housing and 35 percent for existing rental housing. Estimates by William Brueggeman, Jeffery Fisher and Jerrold Stern indicate that, depending on inflation, rent-to-value ratios necessary to maintain a constant rate of return for conventional properties fall by 20 percent to 33 percent due to the increase in tax benefits.[7] The tax benefits for low-income rental housing may be significantly larger than those for conventional rental housing. Low-income housing enjoys a small advantage with a higher depreciation rate and a potentially large advantage with the expensing of construction period interest and taxes (as opposed to 10 year amortization for conventional properties). The magnitude of this difference depends on interest rates. The higher are construction period interest rates, the greater the advantage of expensing. The same authors estimate a decrease of 24 percent to 48 percent in rent-to-value ratios necessary to maintain a constant rate of return for low-income properties.

This shift in the relative tax treatment of rental and owner-occupied housing has potentially profound effects on the allocation of capital within the housing sector.[8] General equilibrium simulations by Hendershott and Schilling indicate in the long-run, the stock of rental housing could rise

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[7]Brueggeman, W., Fisher, J. and Stern, J., "Rental Housing and the Economic Recovery Tax Act of 1981," Public Finance Quarterly, 10, 2, April 1982: 222-241.

[8]Hendershott, P. and Schilling, J., "Capital Allocation and the Economic Recovery Tax Act of 1981," Public Finance Quarterly, 10, 2, April 1982: 242-273.

8 percent (about 80 percent of the increase at the expense of owner-occupied capital and 20 percent from non-residential capital) due to the 1981 tax law changes. These tax changes, coupled with the sharp increase in real and nominal interest rates, have significantly increased the cost of owner-occupied housing vis-a-vis the cost of rental housing. Therefore, we should expect to see much stronger rental housing demand in the first half of the 1980s than existed throughout the 1970s.[9]

A principal factor that will affect the ability of the private market to supply multi-family housing in the near future will be the cost and terms of financial capital for such investment. A recent survey of multi-family developers by the National Association of Realtors (NAR) found that mortgage financing rates and terms, both for construction loans and permanent financing, were the most important barriers to multi-family housing development.[10] Multi-family investors will no longer benefit from low real interest rates caused by unanticipated inflation as they did in the 1970s. In the future, lenders will pass along interest rate risk to borrowers through variable rate and renegotiable rate mortgages. In addition, more

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[9]However, the tax law changes were even more beneficial to non-residential investment. The combination of increased non-residential investment demand and tight monetary policy may keep interest rates high and offset the increased tax advantages for rental investment. Hendershott and Schilling's simulations indicate that if savings do not grow, the effect of the increase in investment demand will be an increase in the stock of nonresidential capital of 6% almost entirely at the expense of owner-occupied housing.

[10]Unpublished data from a survey by the National Association of Realtors Multi-family Housing Development Task Force, 1982. Specifically, 79 percent of those surveyed indicated construction loan financing rates or availability was an extremely important barrier in their market while 96 percent felt that the rates or availability of permanent financing was extremely important.

lenders will be requiring sharing of return on equity through shared appreciation mortgages or joint ventures. While financial capital will be available, on a competitive basis, to rental housing investment from a variety of different sources, the cost will remain high.

In addition to increasing financing costs, higher interest rates and new financing instruments have been accompanied by increased "up front" equity requirements for investors which reduces the value of leveraging. High interest rates increase the financing costs during the construction period, a time in which the project is earning no cash return. The 1976 Tax Reform Act eliminated the expensing of construction period interest and taxes (for conventional rental projects; this feature was restored for low-income projects by the Economic Recovery Tax Act of 1981). The expensing feature creates a source of tax savings for investors during the construction period that reduces the amount of time that the initial equity is tied up in the project. Finally, lenders are requiring higher downpayments from developers to reduce the risk of the investment. The NAR survey indicated that up-front equity requirements for rental housing have increased from 20 percent in 1972 to 35 percent in 1981.

The final factor affecting net yields for multi-family investment is expected appreciation. While this factor is quite volatile and locally determined, there is some indication that low net operating returns for some rental housing during the 1970s were supported in part by expected appreciation of the project upon conversion to condominium and cooperative ownership. If the demand for these types of tenure remains strong in the 1980s, this type of appreciation will reduce real after-tax capital costs

for multi-family housing. However, the threat of condominium conversion restrictions in many areas reduces the expected appreciation from this source.

Pros and Cons of Multi-family Stimulus Programs

The genesis of the proposals for counter-cyclical aid to the housing industry is obvious. Total housing starts have been running at an annual rate of under 1 million units per year for most of the year, construction unemployment is over 18 percent and many potential first-time homebuyers are beginning to wonder whether they will ever be able to purchase their own home. The fact that these proposals are coming this late in the recession is, in itself, somewhat surprising. In discussing such proposals, it is important to analyze them in the context of the current macroeconomic environment, before focusing on the specific aspects of the programs.

The case for counter-cyclical aid to the housing industry is as much social and political as economic. Housing has a highly visible position in the economy and politicians can point to housing programs as evidence that they are taking positive steps to alleviate the impact of the recession. In addition, housing construction is highly labor intensive; therefore, housing subsidies can be advertised as creating job opportunities. Finally, households became accustomed to relatively low real housing costs in the 1970s and have come to expect them in the 1980s.

In order to design a proper stimulus program, it is important to identify the problems confronting developers of multi-family housing and the goals and rationales for government intervention. Traditionally, there have been 4 arguments used to support government subsidization of housing;

(1) projected shortages in the stock of housing, (2) income redistribution, (3) efficiency costs of housing cycles and, (4) housing as a focal point for countercyclical fiscal policy.

The strongest reason for subsidizing multi-family housing is the first argument; that current levels of new construction are inadequate to provide the stock of housing needed in the future. The validity of this argument depends on expected future trends. As indicated in the last section, the demand for rental housing will rise in the early 1980s due to both demographic and economic factors. However, due to the relative concentration of low-income households as renters, rent increases may rise at a rate too slow to generate new construction, particularly at high rates of interest. This situation may lead to rental housing shortages, in many areas.[11] However, these short-term trends should be tempered with the fact that new household formation will fall off sharply in the mid-1980s. The baby boom cohorts will have formed independent households and the rate of increase in the number of new households will fall. Household formation is also affected by housing costs. It will not be as high in the 1980s as the 1970s due to higher real housing costs. Higher housing costs have also led to a more intensive use of the existing stock which alleviates housing shortages.

It should also be noted that the housing stock rationale may conflict with the general countercyclical fiscal policy rationale. In particular,

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[11] Vacancy rates on a national level have been relatively stable over the last few years, hovering between 5.0 and 5.4 percent of the rental stock. Such rates can be very misleading because they do not adjust for turnover and also conceal a great deal of local market variation. Rents have been rising at an annual rate a bit above the overall CPI; 7.7 percent for the year ending May 1982.

there is considerable regional disparity in both the impact of the recession and the need for new construction. A jobs program would probably focus on the Northeast and North Central regions while a program designed to make housing more affordable or available should be targeted to the growing sun belt areas with relatively tight housing markets.

Arguments for subsidizing rental housing production have also been made on income redistribution grounds. Rental housing is the predominant form of tenure for low-income households and the case for in-kind redistribution is often made on the grounds that such programs satisfy donor preferences, as well as provide recipient benefits, and are politically easier to pass than cash transfer programs. All the programs being considered involve a mild degree of targeting (20 percent of units must be rented to households under 80 percent of median income). However, the targeting and countercyclical rationales for multi-family housing frequently conflict. The greater the proportion of units that are targeted to lower income households, the more time is lost in the processing and construction phases which defeats the countercyclical value of the program.

A third reason for supporting multi-family stimulus programs is the point that housing cycles impose efficiency costs on producers. Production cycles cause dislocation of producers and reduce their ability to achieve economies of scale in the production process. This rationale may be more valid for single-family production than for multi-family production. The impact of the fall in production on housing producers may have been less severe for multi-family producers than for single-family producers. To the extent that larger scale multi-family projects are built by larger firms which also engage

in non-residential construction, a fall in the demand for rental housing projects may have been cushioned by a shift into non-residential construction. As shown in Table 4, new housing construction declined by 39 percent between 1978 and 1981 while all other construction activity declined only one percent. The relatively strong level of activity in non-residential construction may have supported multi-family producers. Single-family producers are less likely to be able to shift into alternative recession.

In addition, the fall in multi-family production has been less severe than that for single-family housing over the last two years. As shown in Table 1, multi-family starts fell by 20 percent in 1980 (relative to the 1979 level) and an additional 13 percent in 1981. This fall was smaller than the 29 percent fall in single-family starts in 1980 and 17 percent fall in 1981. Multi-family housing starts (defined as buildings with two or more units) rose 47 percent in May to an annual rate of 464,000, according to recently released figures from the Department of Commerce. This annual rate puts production levels within the 1976-1980 range of 389,000 units to 600,000 units even given the current high interest rates. This increase was concentrated in the sun belt areas where it coincides with general economic growth. The information on intent is not yet available, but it is reasonable to assume that a significant proportion of these starts were for ownership purposes (condominiums).[12]

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[12]It is unclear what proportion of these starts were subsidized. HUD subsidized starts have totalled only 10,000 units for the year to date, but may have been concentrated in the month of May. Unpublished data; Division of Housing and and Demographic Analysis, Office of Economic Affairs, U.S. Department of Housing and Urban Development, June 1982.

Table 4

Value of New Construction Put in Place
1970-1981 (in Constant 1977 Dollars)
(Dollars in Millions)

	Total New Construction	Non Housing	New Housing Units	Housing as Percent of Total
1970	$167,618	$123,745	$43,873	26.2%
1971	182,228	122,321	59,907	32.9
1972	193,998	122,344	71,654	36.9
1973	198,850	125,866	72,984	36.7
1974	170,289	116,693	53,596	31.5
1975	152,198	110,692	41,506	27.3
1976	163,457	110,573	52,884	32.4
1977	173,395	107,923	65,472	37.8
1978	181,987	116,096	65,891	36.2
1979	179,265	118,987	60,278	33.6
1980	160,696	116,626	44,070	27.4
1981	154,800	114,926	39,874	25.8

Source: Construction Reports, Series C-30, Value of New Construction Put in Place, Bureau of the Census, DOC.

The final rationale for designing multi-family stimulus programs is the use of housing as a focal point for countercyclical fiscal policy. There are several problems in using multi-family housing for this purpose. The first problem is that housing production is probably not as effective of an anti-recession program as more general economic policy actions, such as targeted jobs programs. If the goal is to stimulate aggregate demand, an increase in the money supply or general personal income tax cut would probably be more effective. In addition, the explicit goal of the 1981 Economic Recovery Tax Act was to channel additional resources into plant and equipment investment. Providing countercyclical relief to housing may subvert this intent. Also, subsidization of a particular industry will probably increase the deficit and create upward pressure on interest rates. The main problem for housing, and the economy in general, is the persistence of high interest rates which can only be resolved through a combination of a relaxation in the current tight monetary policy and a more responsible fiscal policy.[13]

A second reason why countercyclical stimulus for multi-family housing may not be appropriate in the issue of coordination of subsidy initiatives. If a countercyclical stimulus program for single-family housing is also being contemplated, the two programs may end up being targeted at the same group of households; namely, young, middle-income households. If a single-family stimulus program encourages households to buy that type of housing, it may undercut the demand for rental housing. At the same time, such

[13]Housing is certainly more labor intensive than many other forms of federal expenditure. Therefore, the employment multipliers are likely to be larger for housing than for many other types of expenditures. However, I was unable, in the time frame given for this paper, to find any information on employment multipliers.

aid may also benefit multi-family producers of condominium housing. Given the targeting provisions of the various single-family stimulus proposals, particularly those targeted specifically at first-time homebuyers, such an overlap is highly likely.

A third problem in providing countercyclical aid for multi-family housing is the issue of proper timing of a stimulus for countercyclical purposes. Multi-family construction typically takes a good deal longer, both in the planning and processing stages and in actual construction, than single-family construction. As shown in Table 5, unsubsidized multi-family construction periods are a good deal longer than single-family construction with construction times increasing by size. Typically, FHA insured and HUD subsidized projects take a good deal longer, both in the process stage where FHA's commitment process is rather lengthy, and in the construction stage due to specific requirements in construction and periodic inspections that must take place. Given the time frame for construction, the countercyclical value of these proposals is questionable. If a program is passed now, it would most likely reward developers with projects already planned or underway. Therefore, it would have little impact on new construction and would simply be a windfall for developers. If the program is not started until later in the year, it loses any countercyclical effects it would have in frost belt areas and, given the length of time involved in construction, could very well be pro-cyclical rather than countercyclical if the economy rebounds next year.

Subsidy Alternatives: A Generic Comparison

While the arguments against countercyclical aid to multi-family housing are strong, they do not necessarily rule out the necessity or

Table 5

Completion Times for Residential Construction by Size of Project

Size of Project	Time of Construction*
Single Family	6.9 mos.
2-4 Units	8.0 mos.
5-9 Units	9.2 mos.
10-19 Units	9.4 mos.
20-29 Units	9.8 mos.
30-49 Units	10.7 mos.
50+ Units	14.9 mos.

*Time of Construction from start to completion of building. These figures do not include planning and processing or rent-up after completion.

Source: Construction Reports, Series C-20-82-3, Housing Starts, Bureau of the Census, Department of Commerce.

feasibility of such programs. There is still concern over whether rents can rise fast enough to generate new construction. In addition, high financing costs, coupled with high equity requirements for multi-family investors, continue to be a problem. If countercyclical aid for multi-family housing production is desired, it must focus on reducing the real after-tax cost of capital for multi-family housing production, thereby reducing the break-even yield to investors necessary to stimulate new construction.

The countercyclical proposals currently being considered can be classified as one of three types: 1) interest rate subsidies, 2) tax incentives, 3) direct grants or loans. As shown in Table 6, there are essentially six proposals, two of each type. There are two interest rate subsidies, one of which works through the GNMA tandem mechanism and one (the No Name Coalition modified proposal) providing direct loans to reduce interest payments. There are two tax incentives; providing more money for multi-family rental housing production through the mortgage revenue bond program and providing a 10 percent investment tax credit for rental housing. Finally, there are two direct grant programs. The Dodd bill provides money for state and local governments to provide grants to multi-family rental housing developers for capital improvements, interest rate reductions or land purchase. The other proposal would allow HUD UDAG grants to be used for multi-family rental housing development subject to the requirements embodied in that program.

In comparing these various subsidy alternatives, it is virtually impossible to come up with accurate estimates of their potential impact. There are several reasons why such estimates cannot be reliably generated.

Table 6

Stimulus Proposals for Multi-family Rental Housing

Program	Shallow Tandem	Interest Subsidy (No Name Coalition)	Mortgage Revenue Bonds for MF Rental (inc. volume)	Investment tax credit for Rental Housing	Dobb bill Rental Grants	UDAG Grants
Subsidy Amount	$1 billion	$1 billion	? (some proportion of remaining $8 billion)	entitlement if made the same as plant & equipment credit	$1.3 billion to state-local government	500 million
Depth of Subsidy	4% below market (not below 11%)	1/3 of interest payment up to 4% for interest rates ≥ 14%	difference between market rates and tax-exempt rates + 1.25% (arbitrary gap) for processing	10% of development costs (excluding land)	Flexible-depends on local gov't	---
Limits	$14 K per unit mortgage amount	None	---	$4 K per unit credit	Depends on local governments	per unit grants ≥ $10 K; nat'l ave. for grants ≤ $5 K
Recapture Provisions	Owner repays discount + interest due @ end of 15 years	repay lesser of loan or 60% of project net equity	None	None	in selection process	None
Targeting	20% low-moderate	20% to household with income ≤.8 area median	20% to household with income ≤.8 area median defined target areas	20% to household with income ≤.8 median	20% with income ≤.8	20% with low-mod., neighborhood targeting
Subsidy Mechanism	BMIR loans by lenders purchased at (par) by GNMA & sold at discount	direct loans for mortgage interest (balloon note)	state & local HFA's raise below market mortgage money through sale of tax exempt bonds	Tax Credit off investor income tax	capital grants, loans, reduction payments, land purchase grants	mandatory matching private investment.
Period	15 years	15 years	mortgage term	immediate	---	---
Other	---	Eligible for tax-exempt and FHA insurance	cannot convert to condo for 15 years	---	cannot convert to condo for 15 yrs.	cannot convert to condos for 15 yrs.

First, the details of the programs have not been spelled out in sufficient detail to facilitate precise quantification of the subsidized cost of capital for multi-family housing (i.e., the subsidies in some of the programs depend on current interest rate spreads which are highly variable; the recapture provisions are vaguely worded; the use of the grant funds is not specified). Second, and more importantly, there are few econometric estimates of the interest rate elasticity of multi-family supply. With the exception of the estimated relationships for multi-family housing embedded in large-scale macroeconomic forecasting models such as DRI and Wharton, (the parameter estimates were unavailable at the time of writing) the econometric estimates that exist are partial equilibrium in nature and do not appropriately specify an <u>after-tax</u> user cost of capital for rental housing.[14]

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[14]For example, deLeeuw and Ekanem estimate a supply elasticy of rental housing services with respect to capital prices (before tax interest rate) of -0.2 to -0.5 indicating that rents would change by .2 to .5 percent for every one percent change in interest rates. See deLeeuw, F. and Ekanem, N., "The Supply of Rental Housing," <u>The American Economic Review</u>, 61, 1971: 806-17. These estimates are reduced form and partial equilibrium in nature, and there is no discussion of the change in rents necessary to induce a new start. Another partial equilibrium estimate is contained in D. Jaffee and K. Rosen, "Mortgage Credit Availability and Residential Construction," <u>Brookings Papers on Economic Activity</u>, 2: 1979. Their results suggest that a one percent change in the real before-tax interest rate would generate a change of 100,000 starts, an estimate that seems implausibly high. Finally, Patric Hendershott and James Schilling, in "Capital Allocation and the Economic Recovery Tax Act of 1981," <u>Public Finance Quarterly</u>, 10, 2, April 1982, estimate a general equilibrium (3 sector) capital allocation model explicitly incorporating multi-family housing with an appropriately specified real after-tax user cost of capital. Their analysis is focused on the effects of the Economic Recovery Tax Act of 1981 on capital allocation. In their general equilibrium simulation, a 0.33 percent change in the rental user cost (due to the combined effects of the tax law change and concomitant increase in interest rates due to increased investment demand) leads to an increase in the stock of rental housing (which could be from both new and existing sources) of 8 percent (approximately $67 billion in 1979 prices). These are long-run equilibrium estimates; the time frame over which the changes take place is not specified.

Another approach to generating estimates of the supply response to change in the rental cost of capital is contained in representative project simulation literature. The two analyses are contained in deLeeuw and Ozanne, and Brueggeman, Fisher and Stern.[15] Both of these papers estimate the effect of tax law changes on project rents and rent-to-value ratios. On the assumption that capital markets adjust to restore real after-tax rates of return for housing investors at 6 percent inflation, the effects on rents of changes in tax laws of 1969 and 1976 generated rent increases of 10 to 12 percent and the 1978 change would have decreased rents around 4 percent, holding other factors constant. Brueggeman et al. estimate that the 1981 tax law changes favoring rental investment could decrease rents by 33 percent while maintaining a constant real after-tax rate of return. Again, without reliable estimates of the changes in rents necessary to induce new construction, it is impossible to predict the effect of these rent changes on rental housing starts. In addition, it should be emphasized that these estimates are the maximum rent changes assuming that the capital stock fully adjusts to restore pre-tax law change rates of return. Changes in economy-wide rates of return may change these estimates.

One final problem exists in estimating the potential impact of these proposals on multi-family housing starts. Even if estimates of the elasticity of new multi-family construction to changes in user cost can be

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[15] Brueggeman, Fisher and Stern, op. cit., deLeeuw, F. and Ozanne, L. "Investment in Housing and the Federal Income Tax," Survey of Current Business, 59, December 1979, pp. 50-61 and an expanded version in Aaron, H. and Bechman, J., How Taxes Affect Economic Behavior, The Brookings Institution, Washington, D.C., 1981, pp. 283-319.

generated, it is unclear what proportion of the new construction would represent an increase in the supply of multi-family housing. To the extent that subsidized new construction merely substitutes for private market activity that would have been built without the subsidy, the impact on the stock of multi-family housing is reduced. Estimates of the substitution effects in the 1960s and 1970s indicate that a majority of subsidized new construction, particularly non-targeted subsidies, represented displacement of unsubsidized construction.[16] While the substitution problem may be less given the current low levels of new production, it still poses problems for the effectiveness of multi-family housing countercyclical stimulus programs. Given the relatively long construction periods for larger multi-family projects, coupled with the additional time necessary for planning and arranging financing, any programs that are started now to achieve relatively short-term results will most likely end up subsidizing many projects currently in the planning or development phase.

Given the problems in deriving precise quantitative impacts of these programs, comparison of the various programs will be made in terms of their incentive effects, budgetary costs and impacts and speed with which they can be implemented.

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[16] See Murray, M., op. cit. Murray identifies two types of substitution. On the demand side, substitution occurs if subsidized projects displace planned unsubsidized projects. On the supply side, substitution occurs if subsidized and unsubsidized projects compete for a limited pool of mortgage credit. This latter type of substitution is probably not as strong today as over the time period of the Murray estimates. Recent developments in secondary mortgage markets have facilitated integration of mortgage and capital markets and have increased the elasticity of supply of mortgage credit.

Table 7 contains a rough approximation of the present value of each major subsidy program to a builder-developer. The comparisons are made for a moderately priced unit ($53,333) with a 75 percent loan-to-value ratio generating a mortgage amount of $40,000 (the limit in the tandem proposal). The present value comparisons are highly dependent upon the parameters selected, which are based on current values, and are meant to be illustrative of the potential incentive effects of the various programs.

Interest Rate Subsidies

Both the shallow tandem program and the modified no-name coalition proposal are essentially interest rate subsidies designed to reduce financing costs to mortgage borrowers. The maximum depth of this subsidy is the same for each proposal; 4 percentage points below the market interest rate. However, the subsidy mechanisms and limits differ. The tandem plan would subsidize interest rates down to 11 percent whereas the no-name proposal would only offer assistance if interest rates were above 14 percent. The calculations in Table 7 assume a maximum 4 percentage point reduction with tandem.

The no-name proposal calls for a balloon-note loan (with an unspecified repayment schedule) for one-third of the interest payment on the first mortgage up to a maximum of 4 percent, to be made at the Treasury borrowing rate. Therefore the spread is determined by the difference between the Treasury and mortgage rates. The example in Table 7 contains a 3 percentage point spread. The present value of the loan deferral plus the interest rate deferral exceeded the 4 percentage point limitation and is

Table 7

Cost Comparisons

	Tandem	No-Name[2]	Tax Credit[4]	Tax Exempt[3]
Present Value	$\sum_{j=1}^{15} \frac{[(1-\theta_D)(i-i^*)]L_j}{\prod_{j=1}^{15}[1+(1-\theta_D)i]^j}$	$\frac{.33Lj\ [(1-\theta_D)(1+i_t)]^{15}}{[(1+(1-\theta_D)i]^{15}}$	$.1(.9)(TC_o)$	$\sum_{j=1}^{15} \frac{(1-\theta_D)(i_t-i_e)L_j}{\prod_{j=1}^{15}[(1+(1-\theta_D)i]^j}$
Total Cost (TC_o)	53,333	53,333	53,333	53,333
Loan (L_j)	40,000	40,000	40,000	40,000
Mortgage Rate (i)	.17	.17	.17	.17
Taxable Bond Rate (i_t)	.14	.14	.14	.14
Tandem Rate (i*)	.13	.13	.13	.13
Tax Exempt Rate (i_e)	.12	.12	.12	.12
Term	15 yrs.	15 yrs.	15 yrs.	15 yrs.
Present Value	6,643	10,712 (limited to 6,643)	4,800	3,322
Cost	6,643	6,643	4,800	9,965
Recapture[1]	2,730	3,883	----	----

[1] See assumptions in text.

[2] Alternatively the balloon payment may be for the one-third of the loan amount with interest payments occuring throughout the 15 years. The present value would then be:

$$\frac{\sum_{j=1}^{15} .33L_j[(1-\theta_D)(1-i_t)]}{\prod_{j=1}^{15}[(1-\theta_D)(1+i)]^j} + \frac{.33\ L_j}{[(1-\theta_D)(1+i)]^{15}}$$

For the example discussed in this table, the present value would be $5527 which is considerably lower than the complete deferral. Again, this is subject to recapture.

[3] This example assumes a 15 year loan. If the tax exempt financing is available for 30 years (the life of the mortgage), the value of the subsidy rises to $4299. The cost would rise to $12,896.

[4] Assumes 90% structure to value ratio.

therefore capped at the same level as the tandem proposal. For smaller spreads or lower interest rates this cap may not be binding. Without the cap (and with all payments occurring in the 15th year), the no-name proposal would be much more costly. The proposal substitutes a balloon note at the Treasury rate for one-third of the interest payment (in the calculations this was taken to be the loan amount; if the term of the loan is 40 years the amount of principal reduction during the period would be negligible). Therefore, borrowers benefit from a deferral of one-third of the entire interest payment in addition to the deferral of the subsidy (the difference between the taxable bond and mortgage rates). Because part of the entire loan amount is deferred, the value of this subsidy will also rise with the levels of the interest rates.

The present value of the interest rate subsidies depends on the marginal tax bracket of the borrower and expected future interest rates. For ease of exposition, expected future rates were assumed to be constant and equal to current period rates. The value of the subsidy would obviously change if expected rates differ from current rates.

Because of the cap of 4 percentage points in the spread between the actual and subsidized rates, the maximum amount of the subsidy is the same (2 percentage points after-tax). However, the tandem proposal will allow subsidization at lower rates of interest (11 percent floor versus 14 percent floor). At interest rates of 13 percent, for example, the no-name subsidy would not exist whereas the tandem subsidy would still be 2 percentage points (before tax). Tandem is, therefore, potentially more costly.

Both plans have recapture provisions. The tandem program requires repayment of the discount (plus interest due which is not defined) at the end of the period. The no-name proposal requires repayment of the lesser of the loan or 60 percent of the project net equity at the end of 15 years. In the tandem proposal, if recapture is limited to the subsidy, the present value of the recapture is relatively small ($471). It includes interest on the subsidy at the mortgage rate and it is much larger ($2730). The no-name proposal requires repayment of the loan amount ($.33\ L_j$) in the 15th year, the present value of which is considerable larger ($3883). Given the vagueness of the program descriptions these estimates should not be used without a more specific specification of the recapture provisions.

There are some differences in the budgetary impacts of the two programs. The impact of the tandem program depends on the time lag between the purchase and sale of the mortgages by GNMA. If GNMA sells the mortgages within the year, only the discount (or present value of the subsidy) appears as an expenditure item in the federal budget. If GNMA holds the mortgages, the entire loan amount appears as an expenditure to be reduced gradually over time as loans are repaid (or if GNMA sells in the future). The no-name proposal essentially requires the government to hold a second trust; therefore, the entire loan would appear as an expenditure when initially made and would be repaid in 15 years (unless the property was sold or refinanced at an earlier date). The impact on the budget deficit is therefore much larger under the no-name plan, assuming GNMA sells the mortgages within the fiscal year.

The interest rate reduction programs could be implemented relatively rapidly because they utilize conventional lenders to make the mortgages.

The tandem program has the advantage of being an existing program and therefor would probably require less start-up time than a new program.

Tax Incentives

The two tax incentive programs that are being considered are a liberalization of multi-family mortgage revenue bond subsidies and the granting of an investment tax credit of 10 percent of the structure development cost. The investment tax credit addresses one of the major problems confronting real estate development in the current macroeconomic environment: the rising equity requirements for builder-developers. As mentioned earlier, equity requirements for multi-family construction have risen from 20 percent in 1972 to a current level of 35 percent. The investment tax credit reduces the amount of time necessary for a developer to have his or her equity tied up in the project. At the end of the tax year, he or she simply subtracts the amount directly from taxes that would otherwise have to be paid. Because this is an up-front subsidy, the present value is equal to 10 percent of structure value. Note from Table 7 that this is likely to be smaller than the interest subsidies. However, the tax credit may be attractive to builder-developers for other reasons; in particular, if they do not have sufficient equity for high downpayments and therefore cannot get mortgage credit or are forced to syndicate the project to obtain up-front equity. Syndication, common in subsidized projects, substantially reduces the value of tax benefits to builder-developers.[17]

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[17] See Congressional Budget Office, "Real Estate Tax Shelter Subsidies and Direct Subsidy Alternatives," May 1977.

One issue that should be addressed with regard to tax credits is whether they would be refundable. If the tax liability for the builder-developer is not as large as the amount of the credit, the refundable feature of the credit would require the government to write a check for the difference. If the credits were not refundable, the value of the credit may fall to the extent that it is usable. Builder-developers could sell credits not fully used to outside investors though that would also reduce the value of the credit.

Like all tax expenditures, tax credits have the political blessing or curse, depending on your point of view, of being relatively hidden from view. However, this creates visibility and controllability problems not as evident with expenditure items such as interest subsidies. Tax expenditures also have the advantage of going into effect immediately which is of value in a countercylical program. However, once in place they are an entitlement; whoever qualifies automatically gets the credit. Therefore, it will subsidize construction that would have taken place without the credit.

A tax credit for multi-family investment would also aid in restoring relative neutrality in the tax code between rental investment and non-residential investment. While the 1981 Economic Recovery Tax Act substantially improved the tax benefits for multi-family housing, the improvement was even greater for non-residential investment. In absolute terms, the present value of new rental residential investment was increased 49 percent, as compared to 35 percent for used residential and 95 percent for

industrial and commercial structures.[18] The depreciation treatment for all structure investment is now equal (except for a slight advantage for low-income housing) but non-residential investment also benefits from leasing and the investment tax credit.

Tax-exempt financing for multi-family housing is the other type of tax subsidy program being discussed. Unlike the others, it already exists. However, the combination of a weak bond market and administrative restrictions have led to a level of use below that expected by the sponsors. The proposals outlined for this conference are, in fact, only administrative. State and local governments and housing authorities have complained that the one percentage point arbitrage limit doesn't cover the administrative costs of marketing the bond issue. Therefore, the spread allowed for such charges would be increased by one-quarter percentage point. In addition, the designation of target areas would be liberalized, also allowing greater use of the funding.

The present value of the subsidy (based on a 15 year mortgage) and the cost to the Treasury are given in Table 7. The subsidy is determined by the spread between the taxable bond and tax-exempt yields (currently this spread is approximately 4 percentage points for single-family housing, but mortgages would reflect the arbitrage limit and would most likely include at least a one percentage point risk premium). Given the two percentage point spread given in Table 7, the present value is $3322, considerably below the other programs. More importantly, the cost of this option (in terms of revenue loss) is much greater than the other plans

[18] See Lea, M., "Tax Policy and Housing," unpublished manuscript, Office of Economic Affairs, U.S. Department of Housing and Urban Development, December 1981, p. 27.

because the entire interest payment on the mortgage is tax exempt. The revenue loss, assuming a 50 percent marginal tax bracket investor, is conservatively estimated based on the tax-exempt rather than the taxable bond rate and is still 3 times its value to the builder-developer. In addition, this subsidy would extend over the life of the loan; therefore, both the present value and the cost would be larger. Finally, there are many other efficiency effects associated with the use of mortgage revenue bonds.[19] However, given the potential size of the program, it is unlikely to have a large impact on tax-exempt yields in general.

Grant Programs

Little can be said about the grant programs without more specific information on their provisions. The Dodd bill, for example, could provide capital or land grants, interest reduction payments or loans. Recapture provisions and targeting would be determined through a competitive allocation process. UDAG grants frequently leverage private sector money; the precise impact depends on the nature of the deals between local governments and private institutions.

In general, grants provide up-front subsidies to builder-developers. Therefore, their impact is similar to that of the tax credit, with the advantage of even faster receipt of the money. This advantage (for countercyclical purposes) will probably be lost due to delays inherent in the administrative handling and targeting of these programs by state and local governments. In contrast to tax credits, direct federal

[19] See Patric H. Hendershott, "Mortgage Revenue Bonds: Tax Exemption With a Vengenance," NBER Working Paper 447, February 1980.

loans would be highly visible in the federal budget and therefore easier to control. However, like the no-name coalition proposal, direct grants would enter the federal budget in a lumpy fashion and therefore have a potentially large effect on the current budget deficit.

Conclusions

This report has attempted to analyze the issues inherent in countercyclical aid to multi-family housing. Rather than focusing specifically on the program alternatives, a broader approach assessing the need and desirability of such stimulation is taken. In assessing the need for such programs it is important to understand what is happening both within the multi-family housing market and in other, related sectors of the economy.

The cause of the current housing recession, high real and nominal interest rates and falling real incomes, is obvious. What to do about this problem is not as apparent. While good arguments can be made for subsidizing housing, similar arguments can be made about subsidizing a host of other industries. Such solutions attack the symptoms of the problem rather than the cause. However, we cannot wait forever for interest rates to fall. Prolonged continuation of the current slump in housing construction will inevitably lead to housing shortages and real price increases in many local housing markets in the future.

If countercyclical support of the housing industry is the desired policy goal, it would appear that such aid could more effectively be targeted toward single-family housing than multi-family housing. Given the shorter time frame for development and construction of single-family housing,

the aid to the industry would be much faster and the chances for substitution less with a single-family program. This argument would also apply to targeting smaller multi-family projects. In addition, the single-family construction industry has been more adversely affected by the current recession.

Multi-family production aid may be supported if it is thought that more units of multi-family housing could be stimulated with a given revenue cost. The answer to this question lies in the elasticity of supply with respect to changes in the user cost of capital. Unfortunately, as discussed in the paper, our information in this area is lacking.

If a multi-family countercyclical stimulus is contemplated, the preferred options (among those being considered by GAO) would appear to be the tandem program or the investment tax credit. The tandem program addresses the high financing costs for multi-family projects and it may allow more projects to be developed given current market rent levels. The tandem approach is preferred to the no-name coalition proposal because its budgetary impact is much smaller and it utilizes an existing subsidy mechanism. The investment tax credit is attractive because it reduces the up-front equity requirements for builder-developers and also moves in the direction of tax equity. However, its budget controllability is low and the present value of the subsidy is less than that of the interest rate programs. The mortgage revenue bond program is clearly the most inefficient among those being considered.

There is one additional program that is well suited for countercyclical aid to multi-family housing that GAO might consider. Expensing

of construction period interest (which was removed from the tax law in 1976 for conventional properties) has the ability to act as a counter-cyclical stabilizer for multi-family housing production. The value of this tax treatment to builder-developers is a function of the interest rate. When rates are high it can be worth quite a bit (as opposed to the current 10 year amortization). However, when rates are low, its value to developers as well as its revenue losses are small.

One estimate of the potential impact of this tax provision has been made by Brueggeman, Fisher and Stern.[20] In analyzing the effect of the 1981 Tax Act on a representative rental property, they compared the property under low-income and conventional tax treatments. The differential in the two forms of tax treatment at moderate rates of inflation (10 percent inflation rate and 15 percent mortgage rate) is striking. After adjustment is made for the impact of the tax act on the optimal holding period of a property, the rental income on a representative low-income project could be 23 percent less than on an otherwise comparable conventional project while still yielding the same real after-tax rate of return. This differential shrinks to 10 percent at 6 percent inflation and 9.5 percent mortgage rate. These are long-run estimates and such rent differences may not actually occur due to differences in risk between low-income and conventional properties. However, they provide some idea of the potential effect of such a subsidy option.

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[20] Brueggeman, Fisher and Stern, op. cit. The numbers cited below also include the difference between 175 percent declining balance and 150 percent declining balance depreciation, the effect of which is rather small.

MULTIFAMILY HOUSING STIMULUS PROPOSALS: PUBLIC POLICY ISSUES AND PROGRAM FEASIBILITY

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This paper takes a public policy perspective on the current proposals for providing Federal aid to the multifamily housing industry. It indicates the range of public policy objectives which might be considered, offers some lessons from the past, provides criteria for reviewing the current proposals, then turns to a specific analysis of the major features of the proposals. While the questions of marginal impact and net additional activity are obviously central to the necessity, feasibility, and public purpose of these proposals, other papers in this symposium have the burden of estimating the net impact of construction stimulus programs on construction activity, construction employment, and allocation of capital and credit to housing.

The critical element of program feasibility, from the point of view of this paper, is ability to target Federal assistance directly to areas in which stimulus is most needed for building activity and construction employment. It is argued that the political strategy of linking the construction stimulus with benefits to lower income households produces inefficiencies in both the production stimulus and in the purpose of conferring benefits to lower income households; separate programs would permit more efficient use of funds for the two separate purposes.

CONTEXT OF THE PROPOSALS

Recent months have seen disquieting records in the housing industry, especially for multifamily housing. Interest rates have approached 20 percent. The continuing shift to homeownership of former renters, high development costs, and record high interest rates have combined to reduce dramatically annual multifamily starts to under 300,000 units (seasonally adjusted) in a recent period compared with nearly one million units annually in 1972.

Moreover, subsidized starts had come to constitute over 30 percent of multifamily starts in 1980; it now appears that both public housing and section 8 construction subsidies are to be ended. From the perspective of the building industry this has all the makings of a crisis.

In a sense, it is pointless to argue whether there is a shortage of rental housing and whether there is a crisis in rental housing, although this debate has raged in the past year or so. (See the GAO, HUD, and Urban Institute reports on this subject--GAO, 1979; HUD, 1981; and Weicher and others, 1981.) Analysts agree that rents have lagged other prices in recent years, that profitability of rental housing has declined, and that rental housing construction has declined. The lack of effective demand, occasioned at least in part by higher income renters continuing to be siphoned off into homeownership, has been exacerbated by high development costs and, in particular, high interest rates; the result is a reduced feasibility of building and marketing rental housing. The GAO report concluded that these developments indicated a shortage of rental housing and constituted a crisis. On the other hand, it is argued that low vacancy rates may be less a measure of shortage than of the unwillingness of suppliers of rental housing to enter into an unprofitable market, leaving renter households more squeezed to compete for units from among units in the stock. (See HUD and Urban Institute publications on the rental housing crisis.)

If the concern is one of the amount of living space, the data indicate improvement, not degradation, in this dimension. Using one person per room as the criterion, the percentage of U.S. households living in more crowded conditions declined from 9 percent to 4 percent in the last decade. Focusing upon very low-income, renters,

9 percent of these households currently live in units with more than one person per room, while 2 percent, or about 200,000 households, live in units with more than 1.5 persons per room (see Wallace and others, p. 40).

Even if there is no agreement about a general shortage of rental housing, there is a "shortage" of affordable units and of units meeting some modest measure of standardness. The President's Commission on Housing noted that among very low-income renters (those with incomes under 50 percent of local median income, for a family of four), 5.3 million households were in adequate housing (according to a measure developed at the Congressional Budget Office [CBO]) but were paying more than 30 percent of their income for rent (President's Commission, p. 11). As the Commission and others have suggested, the most direct solution for this problem is income transfer in some form such as their proposed Housing Payments Program, not a construction program. But two million very low-income renters are in inadequate housing, again using the CBO measure. While this represents a great reduction in the number of households living under such conditions over recent years, it could be considered another kind of rental housing shortage.

Strategies for coping with substandard housing are not limited, of course, to building new units to replace them (although this was precisely what lawmakers originally thought should be done with the public housing construction program and urban renewal--for many years, demolition of substandard units was a prerequisite to construction of new units). The primary strategy recommended by the President's Commission on Housing was direct household subsidies, a Housing Payments Program, supplemented by adding a housing component to the Community Development Block Grant Program in an

acknowledgement that the direct household subsidies are ineffective in dealing with units that require more than modest effort or expenses to bring them up to standard. Code enforcement and subsidies for modest rehabilitation are other obvious strategies for dealing with the problem of substandard housing. The President's Commission on Housing also proposed allowing a general rehabilitation tax credit for housing of 15 percent for structures at least 30 years old and 20 percent for structures at least 40 years old. Certified historic structures already qualify for a 25 percent credit.

What really creates the crisis in the current environment is the instability and particularly the low level in construction activity--understandably regarded as a crisis by those whose livelihood is affected. Tradespeople, builders and developers, and building materials suppliers face drastically reduced demands for their goods and services and may be forced out of their line of work or business entirely. The society suffers to the extent that these resources are unavailable when economic conditions recover and restore more normal opportunities for building activity. While precise measures are difficult to obtain, some inefficiencies are inevitable in such a stop-and-go cycle.

In the current economic downturn, however, other sectors of the economy are hurting, too. Unemployment is high across other sectors; failures in business and industry are occurring at unusually high rates. A case might be made for government help in these sectors, also, to provide for continuity in business and industrial capacity. While interest groups for these other sectors put some pressure on the Congress for programs to provide relief in their sector, the housing and building industries are particularly

organized and vocal in expressing their concerns and demands for Federal aid. A special case of the capacity argument is made by the State housing finance agencies, who see the curtailment of tax-exempt bond financing and section 8 construction program subsidies as threatening to undercut a governmental capacity to match goals of housing subsidy programs with good business and financial judgment.

The reality, then, is that the proposals for Federal stimulus programs for multifamily housing are primarily political rather than purely economic in origin. Accepting this reality, it is still possible to evaluate the proposals that have been advanced. Major considerations are the extent to which they follow rather than oppose current trends in the rental housing market, their ability to deal with the residual problem of substandard housing, their likely effectiveness in relieving the perceived problems of the industry, and targeting of Federal expenditures. Within this context, objectives of construction stimulus proposals include the following:

--Rehabilitation activity, especially in areas of high incidence of substandard rental housing.

--Rehabilitation, conversion, and new construction activity in areas with especially severe declines in building activity.

--Labor-intensive activity (presumably rehabilitation and conversions) in areas with especially severe construction unemployment.

--Use of established governmental or quasigovernmental agencies that have become part of the capacity for housing finance and development, such as State housing finance agencies and community development agencies.

--Targeting to areas of greatest need.

LEARNING FROM THE PAST

Before evaluating specific proposals it may be useful to review recent U.S. experience with subsidized multifamily construction. Problems and failures of past programs are likely to recur, for example, in areas of project costs and difficulty in targeting, if proposals have similar structure.

First, history is not encouraging as far as the countercyclical possibilities for Federal construction subsidies are concerned. In the late 1960's, unsubsidized multifamily starts were roughly constant while subsidized starts were rising. Then in 1970-72, subsidized starts began to decline, while unsubsidized starts were climbing sharply (possibly a true countercyclical trend). However, in the period beginning with the Nixon moratorium, imposed in 1972 through about 1975, subsidized starts followed the plunge in unsubsidized starts, acting procyclically. In recent years, the share of multifamily starts that are subsidized has grown (to about 30 percent in 1980). Both the President's Commission on Housing (President's Commission, p. 60) and the recent analysis of Federal housing assistance approaches by Martin Levine (Congressional Budget Office, p. 12) speculate that this increasing federally subsidized share is some combination of substitution of federally assisted construction for private, unsubsidized construction and supplier response to declining rental housing demand and marketability.

Further, some caution needs to be raised about the degree of Federal involvement in housing production from the point of view of sheer costs. All forms of federally subsidized development appear to involve a premium in costs, whether development costs alone or

including full resource costs (in particular, tax revenues foregone through favorable depreciation allowances and tax-exempt bond financing). In a study based on 1975 data from projects in Pittsburgh and Phoenix, costs of public housing, section 236 interest subsidy projects, and rent supplement projects were found to be up to twice as expensive as equivalent private housing (Mayo and others, 1981a). A national study based on HUD records for 800 multifamily housing projects developed between 1975 and 1979 also found consistently high development and total resource costs for subsidized projects relative to unsubsidized but federally insured projects under section 221(d)(4) (Schnare and others). Even uninsured section 8 projects (financed by State housing finance agencies) not subject to minimum property standards and Davis-Bacon prevailing wage requirements in construction were more expensive than unsubsidized, insured projects, which are subject to these requirements. Furthermore, a study of the section 8 new construction program based on 1979 data found that, on average, these projects negotiated rents with HUD that were 24 percent higher than the market rate estimated in the study for equivalent housing in the private, unsubsidized market (Wallace and others).

Perhaps some of these apparent premiums are worth the objectives attained other than simply adding housing stock--providing additional housing opportunity to lower income households and sustaining local construction wages, for example. But the magnitudes involved suggest that these benefits be weighed in terms of their apparent costs.

The ability of the subsidized construction programs to reach the eligible populations also is complicated. For the public housing projects studied by Mayo, their location in minority areas

tended to draw minority households to them, with the result that the projects disproportionately served minority households and contributed to racial concentration (Mayo and others, 1981b). On the other hand, the section 8 study showed that the location of new construction projects primarily in suburban areas led to a disproportionately nonminority tenancy in the program.

The section 8 study also points up another targeting problem. Elderly projects were overwhelmingly favored by developers, both because of easier processing and community approval as well as anticipation of fewer maintenance problems. The upshot has been a predominantly elderly program. While eligible population for section 8 is 25 percent elderly, the projects (as of the 1979 data) were 80 percent elderly (Wallace and others). In more recent years HUD has tried to shift the section 8 program more toward serving families by increasing the proportion of reservations for family housing. Family projects are more likely to drop out of the pipeline, however, and even family projects often have the smaller units rented to elderly households once they are completed.

Within whatever boundaries and actual enforcement of guidelines exists, developers can be expected to attempt projects that are the type easiest to market and located in the most marketable areas. This is not necessarily bad. These inherent tendencies favor long-term stability of the projects. Public subsidies are probably most effectively used when they lower a financial threshold just enough to cause private action in some favored area but without attempting to entice private involvement completely counter to underlying forces and trends. When public objectives call for more serious distortions of private actions, both greater resistance and higher subsidy costs are to be expected.

Finally, production programs have been targeted to distressed areas in the Urban Development Action Grant Program, coupled in some cases with the Targeted Tandem Plan Program. Using criteria of "distressed cities" and "pockets of poverty" in other jurisdictions, HUD makes competitive awards to support joint public-private redevelopment projects. According to the HUD annual report to Congress on community development programs (U.S. Dept. of HUD, 1982), about one-fourth of UDAG projects involved grants for housing--either new construction or, as a more recent emphasis, rehabilitation of existing units. A very rough household targeting guideline calls for half of the units to be occupied by low- and moderate-income households. The competitive nature of the awards may tend to favor large, well-financed developers who have the capacity to pursue negotiations with HUD; proposals are not necessarily screened because they best satisfy the targeting criteria.

The Program 25 Tandem Plan of GNMA has required at least 20 percent of the units to be rented to low- and moderate-income households. However, in the Program 25 Tandem Plan, the mortgage subsidy is combined with section 8 subsidies to bring rents down to levels affordable by lower income households.

CRITERIA FOR EVALUATING PROPOSALS

In view of the immediate policy objectives for the proposed multifamily housing stimulus proposals and experience with previous variations on the program, criteria for judging the merits of the proposals can be outlined. The major categories are

--speed of implementation,

--appropriateness and feasibility of targeting,

--cost effectiveness, and

--budget control.

Speed is important simply because delayed implementation may not provide the stimulus when it is needed. Proposals that are refinements of existing programs and ones with established administrative mechanisms could be implemented more quickly than new programs. Targeting presumably should channel the Federal assistance to areas where the stimulus is most needed to restore building and construction employment; targeting that focused on rehabilitation in areas with high incidence of substandard rental housing would focus funds on more labor-intensive activity as well as upgrading the rental housing stock. Cost concerns include how directly the Federal costs are reflected in the intended benefit, the Federal risk involved in defaults, and prospects for recapture of Federal subsidies. Budget control refers simply to the opportunity to control the Federal costs as contrasted with an open-ended standby, as is usually the case with tax proposals.

EVALUATION OF PROGRAM PROPOSALS

To provide a systematic structure for a review of the proposals, Table 1 lists the proposals, their major features and their apparent advantages and disadvantages. The features and relative merits are discussed below.

Basic subsidy mechanism

All of the proposals would reduce the capital or operating costs of the housing subsidized. Ideally the amounts involved would be just sufficient to induce construction or rehabilitation activity that private actors would not otherwise have undertaken for lack of profitability. Without an unwieldy administrative arrangement for selecting projects, this result is unlikely and some of the subsidy simply goes into windfall profits to developers who would have undertaken the development activity anyway.

	BASIC SUBSIDY MECHANISM	RECAPTURE	MORTGAGE OR SUBSIDY LIMITS	TIME TARGETING	HOUSEHOLD TARGETING	OTHER TARGETING	ADVANTAGES	DISADVANTAGES
SHALLOW TANDEM	4% BMIR loan; GNMA discount	15 years with int.	$40,000/unit	Start after passage; complete by 1/1/84	20% units to hsehlds under 80% median income	New Constr, Subst. Reh., conversions	Working program, control volume directly	Gov't exposure up front (GNMA discount), no area targeting
INTEREST REDUCTION LOAN (Modified No Name)	Loan for 4 point reduction in rate, incl. bond financing	15 years at Treas. rate; (limit to 60% of net equity)	"modest design"	same	same	same	Gov't risk spread over 15 years; recapture possibility	Recapture limit exposes gov't to loss without corresponding participation in any large gain. New program, No area targeting
MORTGAGE REVENUE BONDS	Tax-exempt bonds	None	None	same	same	Areas with "credit crisis", 15-year minimum on conversion	In-place mechanism; SHFAs could do some targeting within state.	Subsidy slippage; unknown revenue loss; targeting not national
INVESTMENT TAX CREDIT	10% dev. credit	None; Could require reduced basis and recover cap. gains tax.	$4,000/unit	same	same	None	No dev. cost limit; Ease of administration (IRS)	No area targeting
RENTAL HOUSING ASSISTANCE	Grants to state & local gov't	No direct provision	No direct limits	Unclear	same	"severe " shortage", overcrowding; substandard, elig. hh's.	Volume controlled; Uses CDBG; local targeting	Fungibility with planned projects
UDAG HOUSING SUPPLEMENT	Competitive awards	No direct provision	$10,000/unit ($5,000/unit nat. avg.)	Passage thru 1/1/84	same	Distressed cities; 15-yr. minimum on conversions	Working prog.	Fungibility National targeting
ACCELERATING PIPELINE (chiefly Section 8)	Increased allowable rents & subsidies (PAF)	None	None	1982	Section 8	None	Speed of effect	Adds fed. expense to already expensive program

The recapture proposals effectively reduce the Federal subsidy, hence reduce the incentive at the margin to undertake development. If the effective interest rate reduction (either through the GNMA mechanism or the interest rate loan mechanism) is to be recaptured with interest at 14 years, the proposal comes down to a bet: will rents and/or capital value of the project increase enough to make the repayment? It is not clear why the Government should limit its access to gains net of other obligations upon sale, as in the Interest Reduction Loan proposal. In both this and the Shallow Tandem proposals, the Government runs some downside risk that the "loan" cannot be repaid out of project proceeds. Why should a limit be placed on the upside? The limit on recapture to 60 percent of net equity is even more complicated if there is not an outright sale and some appraisal method must be used to estimate project value. Why not consider the novel idea of government participating in some fraction of net proceeds without limit?

The only subsidy mechanism among the proposals with a built-in slippage between Federal costs and subsidy delivered to the project is the Mortgage Revenue Bond proposal. It is estimated that the average marginal Federal income tax bracket of bond purchasers in the near future will be 34 percent (GAO, 1980). The estimated relationship between tax-exempt bond rates and triple-A corporate bonds (the assumed alternative investment) is 0.75 (Schnare and others, 1982). The effective subsidy, then is

Interest subsidy=(Corporate bond rate)-(Tax-exempt bond rate)

=0.25 x (Corporate bond rate).

The Federal cost is

Federal cost = 0.34 x (Corporate bond rate).

The subsidy efficiency is thus

Interest subsidy / Federal cost

= 0.25/0.34

= 0.74.

This neglects any further loss in efficiency through windfall profits or substitution. The Mortgage Revenue Bond is inferior to any of the direct subsidy proposals in terms of the effective subsidy delivered to the project.

The Investment Tax Credit also provides a quite direct subsidy to the project exactly equal to the Federal revenue lost in providing the credit. It also requires the least administration, through the Internal Revenue Service.

Accelerating the section 8 pipeline via the financial adjustment factor essentially permits higher project rents in order to cover higher costs of financing than anticipated in the original project proposals. It obviously provides still another capital subsidy to developers; none of the increased subsidy occasioned by the higher rents goes to tenants.

Mortgage or subsidy limits

Placing per unit limits on the subsidy may be politically necessary, but this could well interfere with the primary purpose of stimulating construction and rehabilitation activity. In particular, limits would tend to force the program into relatively lower cost areas whether or not these are the areas requiring stimulus. The advantage of subsidy limits is that in forcing the subsidies into lower cost areas the funds are likely to sustain more construction jobs, to the extent that local construction wages are lower. Concepts like "modest design" may also be

politically attractive but turn out to be difficult or counterproductive to make operational.

Household targeting

As set forth, all of the proposals have a requirement that part of the subsidy be captured for the benefit of low- and moderate-income households (presumably meaning under 80 percent of local median income for a family of four). At least 20 percent of the units must be rented to such households. While this may be a political necessity, we should be clear that this, too, reduces the effectiveness of the subsidies in stimulating construction or rehabilitation. As has been repeatedly pointed out (President's Commission on Housing), this approach is also inefficient as a policy for subsidizing low-income households. The housing affordability problem could be solved with income transfers (including the Housing Payments Program), and the housing quality problem with a device just sufficient to remedy defects. But the household targeting requirements once again attach potentially large subsidies to relatively few households because they are linked to the production subsidies. The mortgage and subsidy limits attempt to control the size of the subsidy, but in doing so may render potential projects infeasible.

Consider three examples:

Project one

Mortgage amount	$40,000	
Annual operating costs	3,000	
Unsubsidized debt service	6,092	(assuming 15%, 30-year mortgage)
Subsidized debt service	4,601	(11%, 30 years)
Per unit subsidy	1,491	per year
Monthly rent, unsubsidized	756	
Subsidy, all skewed to 20% of units	621	
Subsidized rents	135	per month or $1,620 per year.

Even for households spending a third of income for rent, their annual income would be $4,911, easily under $17,840 (80 percent of the estimated national median income of $22,300 for 1981). The problem is that this example assumes both that the mortgage requirement is as low as $40,000 per unit and that all of the subsidy can be skewed to the 20 percent of units for lower income households.

In this example there is essentially no incentive left for the developer. All the subsidy has been taken up in meeting the targeting requirements. Of course, if participation in one of these programs enables a project to be financed and occupied that otherwise could not, some developers might participate primarily for the tax shelter benefits.

Project two

Same figures as project one, except that half of the subsidy is needed to make the "unsubsidized" units marketable.

"Unsubsidized" rents		$756	
	less	62	(half of per unit subsidy)
		694	
Subsidized rents		756	
	less	310	(remaining subsidy concentrated
		446	on the 20 percent).

This annual rent of $5,344 is one-third of an annual income of $16,033, just under the income limit of $17,840. The range of incomes for households that will qualify the project for the targeting requirement without their having to pay too much of their income for rent is quite narrow.

Project three

Project mortgage is $65,000 and all the subsidy is skewed to the 20 percent of units held for lower income households. Assume the same annual operating costs of $3,000. Debt service on a 15 percent mortgage would be $9,900. Skewing all the subsidy to the 20 percent of units leaves them with a monthly rent of $453, or $5,445--a third of an annual income of $16,333, again pushing close to the income limit.

These crude examples suggest that the idea of combining production incentives with capturing some of the subsidy for lower income households should be reconsidered. For a given budget, separating the two objectives could yield more efficient uses of the funds for each purpose. The proposal to accelerate the section 8 pipeline does not permit this separation.

Other targeting

This element creates some important distinctions among proposals. While none of the proposals specifically target rehabilitation, as might be desired to maximize job stimulus, some of the proposals provide much better opportunities for focusing the subsidies on "distressed" areas--those with severe declines in building activity and construction employment. Proposals lacking this targeting feature are

--Interest Reduction Loan,

--Investment Tax Credit, and

--Accelerating Section 8 Pipeline.

The Interest Reduction Loan and Investment Tax Credit proposals would allow most of the initiative to be taken by private developers for projects of their own choosing. In providing the broadest incentives they also run the greatest risk of allocating subsidies to projects that would not have required subsidy.

The Mortgage Revenue Bond approach could be set up to provide for distressed area targeting, but only within the agency jurisdiction--usually a State. Some States may have such activity in construction generally that no production subsidies are justified. The low subsidy efficiency indicated above compounds this problem.

Proposals most amenable to distressed area targeting are

--Shallow Tandem

--Rental Housing Assistance, and

--UDAG Housing Supplement.

In all of these proposals a mechanism exists at the Federal level to provide for allocation of subsidies according to measures of need. Distinctions among them have largely to do with judgments about Federal versus local government selection of specific

projects, once the area has been identified. In practice, community development agencies ordinarily would participate to some degree in project selection in any of the three programs. The Rental Housing Assistance proposal has the advantage of directly allocating funds according to distressed area criteria, but there is no inherent reason why the UDAG Housing Supplement could not be made available only in distressed areas. The competitive award feature could result, however, in funds being skewed away from areas of most need.

CONCLUSIONS

Within the narrow scope defined for this paper it is now possible to offer some subjective judgments about the relative ranking of the multifamily housing stimulus proposals. The proposals are simply divided into two categories--most and least desirable--with summary reasons attached:

Most desirable	Reasons
Rental Housing Assistance UDAG Housing Supplement Shallow Tandem	All provide direct allocation of all subsidies, with budget control, to target areas, with high project-level subsidy efficiency

Least desirable	Reasons
Interest Reduction Loan	Not targeted; new program
Investment Tax Credit	Not targeted
Mortgage Revenue Bonds	Inefficient subsidy; poor targeting prospects
Accelerating Section 8	Adds Federal expense to an already expensive program; not targeted to distressed areas

While not included in the list of proposals to be evaluated, two additional candidates could be considered. They are(1) rehabilitation assistance for public housing projects and (2) restoring the expensing of construction period interest and taxes for all housing development. Directing Federal subsidies to public housing rehabilitation (for example, energy conservation measures and reconfiguring projects to accommodate current tenant mix or achieve more socially viable projects) could also generate additional construction employment in targeted areas using existing administrative arrangements. The President's Commission on Housing recommended restoring the expensing of construction period interest and taxes for all real estate development (not just low-income housing). In the context of housing stimulus proposals, however, this would rank with other broad and essentially untargeted subsidies.

REFERENCES

Congressional Budget Office, Federal Housing Assistance: Alternative Approaches, (Washington, D.C.: U.S. Government Printing Office, May, 1982).

General Accounting Office, Evaluation of Alternatives for Financing Low and Moderate Income Rental Housing. (Washington, D.C.: U.S. Government Printing Office, 1980) PAD-80-13.

General Accounting Office, Rental Housing: A National Problem that Needs Immediate Attention (Washington, D.C.: Government Printing Office, November, 1979).

Mayo, Stephen K., Shirley Mansfield, David Warner, and Richard Zwetchkenbaum,

(a) Housing Allowances and Other Rental Housing Assistance Programs--A Comparison Based on the Housing Allowance Demand Experiment, Part 2: Costs and Efficiency, (Cambridge, Mass: Abt Associates Inc., 1980).

(b) Part 1: Participation, Housing Consumption, Location, and Satisfaction.

President's Commission on Housing, The Report of the President's Commission on Housing, (Washington, D.C.: U.S. Government Printing Office, April, 1982).

Schnare, Ann B., William B. Moss, Carla I. Pedone, Kathleen G. Heintz, and Benaree P. Wiley, The Costs of HUD Multifamily Housing Programs: An Analysis of Development, Financing, and Subsidy Expenditures, (Washington, D.C.: Urban Systems Research and Engineering, Inc.), 1982.

U.S. Department of Housing and Urban Development, Rental Housing: Condition and Outlook, a 1981 Report to the Congress.

U.S. Department of Housing and Urban Development, Consolidated Annual Report to Congress on Community Development Programs (April, 1982).

Wallace, James E., Susan Philipson Bloom, William L. Holshouser, Shirley Mansfield, and Daniel H. Weinberg, Participation and Benefits in the Urban Section 8 Program: New Construction and Existing Housing, (Cambridge, Mass.: Abt Associates, January, 1981).

Weicher, John C. and others, Rental Housing: Is There a Crisis? (Washington, D.C.: The Urban Institute, 1981).

COUNTERCYCLICAL HOUSING POLICIES: MICROECONOMIC MEDICINE FOR MACROECONOMIC ILLS

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I.

Proposals abound to aid the recession-sticken housing construction industry. Perhaps the brightest hope of these proposals is to harness idle resources and construct dwellings which would otherwise go unbuilt. Such an outcome would benefit consumers and workers alike; the former would receive added housing and the latter would obtain more work. Unfortunately, empirical researchers do not share this hope.

David Meiselman[2] wrote in Housing in the Seventies (1976, p. 359):

> The instruments of monetary and fiscal policy in the shortrun may cause some intertemporal shifting of housing construction activity, but there is no evidence that they have any permanent effects on construction.

And more recently, I have noted elsewhere (Murray (1980)) that from 1961 to 1977,

> ...displaced unsubsidized starts undid 80 percent of the gross effect of the subsidized starts on the average stock of housing.

In my writing, however, I did offer this cautionary note:

> ...some new construction housing programs have a stronger effect on the stock of housing than do others.

Thus, while past efforts to subsidize the housing industry have not created many additional homes or jobs, there may be alternative approaches which could achieve those ends.

But even if housing policies cannot do much to alter the total output of the construction industry, smoothing output over time may be desirable, and consequently, measures to increase output during the recession may be justified. For example, one might argue that shifting construction employment from a labor-tight future period to the job-scarce present might increase total employment. Construction workers who would have been building dwellings in the future might instead build now and undertake alternative employment during the cyclical upswing.

My remarks here are restricted to considering several stimulus proposals aimed at multifamily housing. The six subsidy schemes which I shall analyze are:

- Tandem financing of new multifamily construction with below-market interest rates;
- Mortgage interest subsidies for new multifamily dwellings provided through a below-market interest loan for paying part of a dwelling's mortgage interest;
- Stimulation of HFA's issuance of mortgage revenue bonds for multifamily units by relaxing restrictions on interest rate differences between the bonds and the mortgages, and by altering the allowed target population for the subsidized housing;
- Direct loans for newly-constructed multifamily dwellings;
- Direct grants for capital or land purchases in the construction of new multifamily dwellings;
- Tax credits for new multifamily dwellings.

I shall examine three particular issues pertaining to the above proposals. First, I shall inquire about the extent to which these programs can be expected to increase the production of housing in the short run and in the long run. Second I shall ask how these programs can be expected to increase employment in the short run and in the long run. And third, I shall ask how these programs compare with alternative government measures as employment stimuli.

The basis for my comments here is my earlier work on subsidized and unsubsidized housing starts. In that research I examined quarterly housing starts from 1961 through 1977 to determine the extent to which increases in the number of subsidized housing starts simply displaced unsubsidized starts. My model of housing starts was particularly appropriate for considering the present crisis because the focal point of my analysis was the link between the demand and supply of mortgage credit. In the current environment, it is the astonishingly high real mortgage interest rates which are chiefly responsible for the unfortunate states of the construction industry. And I shall argue below, stimulus proposals' only chance for success lies in their capacity to augment the supply of finance capital available to potential mortgage creditors because the inelasticity of mortgage supply which is evidenced in my work and that of Swan (1973) and Fair (1973), indicates that the market is unlikely to be very forthcoming with such funds.

II.

In my study of subsidized and unsubsidized housing starts, I examined several programs whose designs were similar to currently-proposed measures. Direct loans, tandem financing mechanisms, and interest subsidies for low and for moderate income multi-family dwellings all appeared in my data, and my applications covered mortgage revenue bonds as well.

I found that tandem financing mechanisms and interest rate subsidies targeted to moderate income dwellings have no effect on the total stock of housing in the long run, and may even have no effect in the short run. Two factors contribute to this result. First, mortgage lenders appear to treat subsidized and unsubsidized mortgages as nearly perfect substitutes. Consequently, funds devoted to subsidized starts are simply extracted from those available in the unsubsidized sector. Second, on the other side of the market, the final demanders of multifamily housing, the occupants, seem willing to easily substitute subsidized construction for unsubsidized construction. (The exception to this is when the subsidized dwellings are targeted to the truly needy; an increase in such starts does not seem to reduce the demand for unsubsidized starts by much.) Thus increasing the number of subsidized conventionally-financed, moderate income multifamily starts simply reduces both the supply and demand for unsubsidized starts on a one-for-one basis, leaving the total number of starts unaffected.

The actual proposals for shallow tandem financing and the interest subsidies are even less likely to stimulate production than were past tandem programs because the new proposals require ultimate repayment of the subsidy, albeit at advantageous interest rates, whereas the traditional programs channeled the subsidy through to tenants in the form of reduced rents.[3] The chief difference between the tandem and interest subsidy programs is that the shallow tandem program would reach fewer units for an equal first year expenditure, while the interest subsidy scheme would incur longer term budget obligations in addition to the first year outlays.

Direct loan programs, in contrast, only reduce the demand for unsubsidized starts; they do not reduce the supply of conventional mortgage credit available to the unsubsidized sector. In the long run (say, a decade), two-thirds of the impact of direct loan subsidies on the stock of housing is washed away by displacement of unsubsidized starts. However, in the short run, only one-third of the impact is lost. Consequently, direct loan payments can increase housing and employment in both the short and long run. Unfortunately, the immediate budget impact of direct loan programs is high and therefore a given year's dollar commitment devoted to direct loans will support far fewer starts (perhaps one-tenth as many) than would tandem or interest rate subsidies of equal short-term budget cost.

In my earlier paper I argue that mortgage revenue bonds would have the same general effects as direct loan programs for moderate income dwellings. I claimed government bonds are a poor enough substitute for mortgage instruments that increased issuances of governmental bonds have little impact on the supply of mortgage credit for unsubsidized starts. Thus, the only effect on subsidized starts comes once again through a reduced demand. What is not clear is whether the proposed eased restrictions on such bonds would in fact induce HFA's to increase markedly their issuances. Only if the HFA's choose to increase their offerings would these proposals increase production.

One component of the revenue bond proposal shows some promise for success. HFA's have persistently argued that a one percent arbitrage limit is inadequate and has been a severe impediment to wider use of the revenue bonds. What remains to be seen is if a .25 percent increase in the limit is sufficient to awaken widespread interest; my own guess is that it will do so only minimally. Another feature of the proposal promises a more specious success. By increasing the allowed income for the target population, the proposal will increase the marketability of dwellings financed under the program. But at the same time the increase will reinforce the displacement of unsubsidized starts induced by the bonds; in my earlier work I found that targeting the subsidies to higher income housing brings sharper declines in the demand for unsubsidized starts.

My earlier analysis did not cover special tax breaks for housing construction, such as the current tax credit proposal for rental housing. Nor have other writers offered convincing direct evidence on the subject. However, there is some indirect evidence worth considering.

The demand for housing services is generally believed to be price inelastic. Consequently, even a permanent tax credit would not be likely to alter much the total demand for housing; the current short-term proposal is even less likely to alter such demands. However, the demand for housing starts is considerably more elastic than the demand for the housing stock; this is for two reasons. First because the stock is so large relative to the annual flow; and second, because the limited duration of the credit's availability is likely to concentrate the short-run influence of the credit on starts still further. Consequently, the demand for multi-family starts is quite likely to rise moderately, and perhaps considerably, in the face of such a policy.

Unfortunately, even a large increase in the demand for starts will not mean a large increase in housing starts. Housing starts require mortgage commitments, and there is ample evidence (Fair (1973), Murray (1980), Swan (1973)) that the supply of mortgage credit is quite interest inelastic. (In addition to the mortgage financing, short-term financing during the construction period is also needed; but it is the inelasticity of mortgage funds which ensures difficulties

despite tax credit incentives.) Consequently, surges in demand will be translated more into higher interest rates than into additional starts unless the subsidy mechanism somehow augments the supply of mortgage credit. To stimulate production, therefore, a tax credit plan must first increase the liquidity of developers and second must induce them to use their increased liquidity to self-finance more of their projects than they would ordinarily choose. Otherwise, the actual increase in housing construction from a tax credit plan would be small, smaller than a comparable direct loan program. Prospects for increased liquidity and increased self-financing induced by a tax credit scheme are not bright. The tax savings would not all be immediately realized and would therefore not be immediately available to finance additional starts. Moreover, it is not at all clear that developers and project owners would wish to devote their windfalls to increased equity in their buildings. To the extent the windfalls are used for other purposes, the housing and employment effects would be lessened. As a consequence, a tax credit for rental construction is likely to have only two primary effects: (i) it would provide a huge windfall to those developers who were already planning to build during the recession and (ii) it would put upward pressure on the already very high mortgage interest rates. Similar objections would seem to apply to capital or land grants proposed under the Dodd Bill and its variants.

III.

It should be noted that tax credits are only the most egregious of the proposals that offer large subsidies to developers in exchange for only limited relief to the housing industry. If I have been correct in arguing that tandem financing and interest rate reduction schemes do not affect total starts in either the short run or long run, then those proposals simply siphon billions of dollars of subsidized loans to developers without creating either new jobs or new housing. Moreover, none of the current proposals require pass-throughs of subsidies to the occupants of the dwellings. Indeed, one irony of these proposals is that the subsidies do not even go to the builders most injured by the recession, those suffering the greatest cutbacks in production; rather they would yield benefits to the very builders least hurt by the hard times, those who are still building new residences.

Mortgage revenue bonds and any direct loans sponsored under the Dodd Bill or with incremental UDAG grants would also channel most of their benefits to developers, but they at least would have some modest impact on construction employment and on the stock of housing.

But surely channeling funds to developers is a curious way to increase employment when at least one-third of the direct employment impact and at least two-thirds of the long-run impact are dissipated through substitution for unsubsidized construction employment. Such a policy could only be

rationalized if increased production activity in the construction industry spurred much greater increases in employment than could be attained through other public measures.

However, examination of the direct and even the indirect employment benefits from added new residential construction reveals that housing construction is roughly in the middle of all production sectors in its direct and total employment generation (Lofting 1981). Consequently, dollars funneled to housing through the proposed stimuli, softened in their effect by the displacement of unsubsidized starts, will have very weak effects relative to other activities. For example, rechanneling subsidy dollars from a mortgage revenue bond program to public service employment projects would create two to five times as many jobs in the long run even if the displacement effects were comparable (which seems very unlikely), and the short-run differences would be larger yet. Moreover, in a case such as subsidized employment, most of the direct subsidy dollars would be going to poorer members of society, rather than to the developers least affected by the recession.

IV.

In this section I briefly summarize my expectations for several counter-cyclical multifamily housing programs.

Table 1 compares seven alternative policies: $1 billion shallow tandem financing plan, a $1 billion interest subsidy plan, a $1 billion mortgage revenue bond plan, ten percent

investment tax credit plan; a $1 billion direct loan program, and a $1 billion capital or land grant program. The cost of the tax credit plan is calculated as 5 billion dollars on the conservative assumptions of 250 thousand multifamily starts at an average cost of 30 thousand dollars of which 10 thousand is land costs. A $1 billion tax credit plan is also shown for ease of comparison with the other programs. The $1 billion figures refer to the immediate budget impact of the proposal, not its ultimate economic cost. In the current period of massive deficits, such budget impacts are particularly important.

The housing stock effects of the proposals are reported in three forms. First given is the number of units which would receive subsidies. Second is the number of additional housing starts stimulated in the short run, net of short-run displacements. Third is the long-run net increase in the stock of housing, net of all displacements.

The employment effects of the proposals are given in two forms. First is the direct labor input associated with the short-run increase in housing production. Input/Output tables (Lofting (1981)) and government documents (HUD (1979) and Commerce (1979)) indicate that $30,000 multifamily units require about .75 man-years of direct labor input in production and 1.5 man-years of indirect labor input. It is reasonable to assume that the indirect employment effects of increased production are realized in the intermediate term rather than the short run, so the total employment effects are labeled long run and the direct effects are labeled short run.

Table 1

MAXIMUM STIMULUS EFFECTS OF ALTERNATIVE PROPOSALS

Proposal	Immediate Budget Cost	Maximum Units Subsidized	Maximum Net Short-Run Stimulus (units)	Maximum Net Short-Run Stimulus (man-years)	Maximum Net Long-Run Stimulus (units)	Maximum Net Long-Run Stimulus (man-years)
Shallow Tandem :	$1 billion	166,000[b]	0	0	0	0
Interest Subsidy	$1 billion	890,000 (see text)	0	0	0	0
Revenue Bonds	$1 billion	33,000	22,000	16,500	11,000	24,750
Direct Loans	$1 billion	33,000	22,000	16,500	11,000	24,750
Capital/ Land Grants	$1 billion	200,000	22,000[c] (see text)	16,500	11,000	24,750
2% Tax Credit	$1 billion[a]	250,000	11,000[d] (see text)	8,250	5,500	12,375
10% Tax Credit	$5 billion[a]	250,000	55,000[d] (see text)	41,250	27,500	61,875

a) Actually tax revenues foregone.

b) Assumes an average per unit mortgage of $30,000.

c) Assuming, optimistically, developers and project owners receiving such grants would choose to devote them to increased equity in their buildings.

d) Assumes one-half of tax saving is realized early enough to be used to supplement conventional financing, and is so used, thereby increasing effective supply of mortgage funds.

Some caveats in reading Table 1 are in order. First, it is unlikely that a $1 billion interest subsidy program would be introduced; a primary purpose of the interest subsidy plan is to keep initial budget burdens low by spreading the commitment over time. Hence, the number of recipients is likely to be closer to 100,000. Second, the billion dollar figures for the shallow tandem, the interest subsidy, the mortgage revenue and the direct loan plans are not cost figures since recipients would repay the billions later, although at favorable interest rates (wherin lies the true program costs). Third, the stimulus effects reported for grant and tax credit programs are, in my opinion, overly optimistic. I doubt that as much as ten percent of the dollars saved or received by the developers and project owners under these plans would be devoted to increased equity in new buildings. Consequently, the scarcity of mortgage supply is as likely to choke off the stimulus effect of these programs as the effects of shallow tandem and interest subsidies. Table 2 represents alternative effects for these programs on the assumption that only ten percent of the subsidies stay in the new construction sector.

Table 2

Modified Stimulus Effects of Grant and Credit Proposals

Proposal	Immediate Budget Costs	Maximum Units Subsidized	Likely Net Shortrun Stimulus (units)	Likely Net Shortrun Stimulus (man-years)	Likely Net Shortrun Stimulus (units)	Likely Net Shortrun Stimulus (man-years)
Interest subsidy	$.1 billion	100,000	0	0	0	0
Capital/ land grants	$ 1 billion	200,000	2,200[a]	1,650	1,100	2,475
2% tax credit	$ 1 billion	250,000	2,200[a]	1,650	1,100	2,475
10% tax credit	$ 5 billion	250,000	11,000[a]	8,250	5,500	12,375

a) Assumes 10 percent of grant or credit is devoted to increased equity.

V.

The fundamental conclusion of these analyses is that a housing industry suffering from macroeconomic ills (high unemployment and astonishingly high real interest rates) is not likely to be cured with microeconomic medicines.

If one's goal is to alleviate the suffering of the unemployed and underemployed, the appropriate tools are direct subsidies to these individuals, through extended unemployment benefits, public service employment, food stamp allotment increases and the like. Housing programs are simply too roundabout a mechanism to be of much use in this endeavor.

And if one's goal is to reduce the cyclical fluctuations in the construction industry, one must attack the root causes of the problem, namely the general cyclical fluctuations in the economy. Reduced real interest rates and increased general employment would quickly bring a rebound to the housing industry. But advocates of such measures must acknowledge that a quick attainment of these goals is quite likely to bring with it a resumption of high inflation and a continuance of high nominal interest rates.

Footnotes

[1]I am grateful to Lance Barnett, Rosanne Ducey, Jack Lowry, Duane McGough, Kevin Neels, and Peter Rydell for discussions of this topic. They, however, should not be held responsible for any but the insightful remarks contained in this paper.

[2]Meiselman's paper is very insightful and anyone interested in this topic would find it fruitful reading.

[3]Because the traditional programs reduced tenants' cuts, it is likely that they induced some increase in housing consumption. However, since the evidence is that housing demand is relatively price inelastic, these increases would be small relative to the overall level of subsidy payments. Under the current proposals, there is no pass-through of subsidies to the tenants required, and hence no reason to expect even this modest stimulus to demand.

Bibliography

Fair, R., "Monthly Housing Starts," in National Housing Models, R. B. Ricks (ed.), Lexington Books, Lexington, Mass., 1973.

Meiselman, D., "The Impact of Countercyclical Monetary and Fiscal Policies on Housing," in Housing in the Seventies, vol. 1, Department of Housing and Urban Development, Washington, D. C. 1976, pp. 351-359.

Lofting, E., Report to the Governors Public Investment Task Force on the Detailed Interindustry Structure of the California Economy and the Potential Impacts of Autonomy Investment, Engineering-Economics Associates, Berkeley, California, July, 1981.

Murray, M. P., "Subsidized and Unsubsidized Housing Starts: 1961-1977," Duke University Working Paper, Institute for Policy Sciences, June, 1980.

Swan, C., "Subsidized and Unsubsidized Housing Starts," ARUEA Journal, 1973.

A MICRO-SIMULATION ANALYSIS OF OPTIONS INTENDED TO STIMULATE THE PRODUCTION OF RENTAL HOUSING

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Introduction

This paper contains an analysis of current economic problems facing developers of rental housing and estimates of the cost and relative effectiveness of programmatic options proposed by GAO to stimulate rental housing production. The options proposed by GAO can be classified into three general groups or approaches. The first approach would provide either direct or indirect subsidies that would reduce mortgage financing costs. One option designed to reduce financing costs is the Shallow Tandem Program which would enable developers to borrow funds for rental housing projects at significant discounts, which would be initially absorbed by GNMA. Such discounts would then be repaid by borrowers when a project is eventually sold or refinanced. More specifically, monthly payments on these discounted loans would be based on a sufficiently low rate of interest (not lower than 11%) so as to provide for satisfactory debt service coverage from operating revenues from newly developed projects. A balloon payment, large enough to recover the discount absorbed by GNMA at the time of origination plus deferred interest, would be required after 15 years or if projects were sold or refinanced. Because this proposal requires that the initial discount is to be repaid with interest, there may be little or no direct subsidy associated with this proposal.

A second option, designed to reduce financing costs, is the Interest Rate Subsidy or so-called "No Name Coalition" proposal. This proposal is similar to the Shallow Tandem approach; however, it involves an explicit subsidy to developers. Essentially, developers would make first mortgage loans at current interest rates and simultaneously make second mortgage loans equivalent

to one-third of interest requirements on the first mortgages. These second mortgages would be made available to developers as long as current interest rates on first liens exceed 14 percent. Interest costs on the second liens would be compounded at the government borrowing rate but would be deferred and become due as a balloon payment after 15 years, or sooner if projects are sold or refinanced. However, balloon payments due on such second liens would not exceed 60 percent of any appreciation in market value in excess of cost for projects developed under this program.

The third option in the reduction of financing costs category is the Tax Exempt Mortgage Bond proposal. This vehicle currently provides below-market interest rate financing for rental housing; however it would be modified by allowing an increase in the difference in interest rate spread between interest costs on bonds issued and rates charged on mortgage loans to 1.25 percent from the one percent of bond proceeds currently allowed to state and local housing finance agencies. Ostensibly, increasing this spread would provide an incentive to such agencies to expand activities and to meet requirements associated with increasing the number of bond issues relative to their current use.

The final option in the financing category involves increasing the financial adjustment factor (faf) for Section 8 programs with HUD contract rent commitments, but presently without firm financing commitments. Funding commitments are lacking because of high interest rates, which in turn make for high debt service requirements relative to fair market rents presently allowed by HUD on such projects. Increasing faf would amount to a higher rental subsidy commitment from HUD, thereby enabling higher debt service commitments to be covered from current operating revenues. This would enable development of more Section 8 projects currently in the HUD approved "pipeline."

The second general approach to stimulate production in rental housing is to provide for a 10 percent investment tax credit on direct project costs (in excess of land cost) to developers of rental housing. However the Investment Tax Credit proposal would limit these credits to $4,000 per unit constructed. This is the only proposal among the seven considered here that would utilize a subsidy composed of a direct reduction in taxes as an incentive to stimulate production.

The final category analyzed, includes two options that would provide direct funding, through either city or state entities, for development of approved rental housing projects. Under the UDAG proposal, developers could obtain grants for up to $10,000 per unit. Subsidies would average $5,000 for the program as a whole, however. All UDAG regulations regarding matching private financing and neighborhood targeting would still apply in establishing whether such grants should be made. The second option in this direct grant approach is referred to as the Dodd proposal. It would provide funds for loans, grants, interest reduction payments and land acquisition grants to be made by state and local housing agencies. Projects selected for subsidies under the latter proposal would be based on a number of considerations including elimination of housing shortages, project cost, neighborhood development and the likelihood of loan repayment.

There are a number of additional characteristics that are common to each of the seven options described above. These include eligibility for project rehabilitation, reservation of 20 percent of units developed or rehabilitated for households with incomes not in excess of 80 percent of median area income and provisions allowing for conversion of residential units from present non-residential uses. Another provision relevant to units produced under the

tax-exempt mortgage and UDAG proposals includes a restriction on conversion of rental units to condominiums for 15 years.

General Considerations Regarding Effectiveness of Program Options

Ideally, the options analyzed in this study should be evaluated in terms of their relative costs and effectiveness. Unfortunately, the effectiveness of each proposal (interpreted in this analysis to mean net additions to the stock of rental housing) is difficult to estimate because of other market considerations which cannot be completely controlled for without using an econometric model of the housing market. Such market influences include indirect substitution effects in financial markets as funds are raised for the proposed subsidy options with government bonds or tax-exempt bonds. As these funds are raised, the cost of mortgage credit is likely to increase, resulting in a decline in unsubsidized rental starts.[1] Direct substitution effects in the housing market may also occur as changes in the supply and demand for privately produced rental housing eventually come about in response to the increase in the production of subsidized housing.[2] Further, subsidy options are also being currently proposed to stimulate production in single-family construction which is usually owner-occupied. The effectiveness of proposals to stimulate rental housing will be highly dependent on the extent of subsidy occurring in the market for owner-occupied housing.[3] It should also be stressed that the low level of rental housing production is part of the present recession which is affecting numerous industries in the U.S. economy. Consequently, programs designed to stimulate production in selective industries, such as housing, may come at the expense of other industries indirectly as interest rates are affected in financial markets and in the market of real goods and services. To

accurately measure the effectiveness of options designed to increase the production of housing, these more general equilibrium influences should be taken in account to the extent possible. Finally, there is likely to be a significant difference in regional effects of the proposed options. Some options are likely to be more effective in some regions of the U.S. than others, hence there may be no "one" effective option suitable for all regions.

Given these observations concerning the measurement of effectiveness, qualitative judgments are made in this study regarding the likelihood of substitution effects and the relative effectiveness of each option. While specific cost estimates are made for each option, no attempt has been made to formally estimate net additions to housing stock either in the short or long run, controlling for the important market effects outlined above. Further, the cost results estimated here are based on current market interest rates, rents, expenses, etc. To the extent that these relationships change, such costs would have to be re-estimated. The user of this study should be aware of these limitations.

Organization of Study

The study first addresses important issues relating to the production (or lack thereof) of unsubsidized rental housing as viewed by both investors and loan underwriters in the present economic environment. Utilizing a micro-economic model of investment behavior, important relationships between developer rates of return after taxes and the adequacy (or lack thereof) of cash flow production from new rental housing projects, considered to be representative of those currently under development, are illustated. Estimates of the same relationships were then made by varying mortgage terms to assess how sensitive financial feasibility is to reductions in interest rates. Following

this exercise, estimates were made of the minimum range of subsidy costs deemed necessary to induce development. This estimate of subsidy cost was then utilized as a "benchmark" or standard against which the cost of each option proposed by GAO was assessed. Estimates of the subsidy cost of each option was then made by incorporating the salient features of each into the simulation model. These estimates were used to make judgments concerning the relative cost of each option and its potential effectiveness as gauged by the likelihood that development of rental housing will result. The final section of the study includes a summary of the costs, incentives and observations on the relative effectiveness of each option in bringing about net additions in the rental housing stock both in the short and long run.

An Assessment of Current Impediments to the Production of Rental Housing

Before evaluating the specific options provided by GAO, current problems relating to financial feasibility of multi-family housing development are examined. These problems can be illustrated with a baseline case representing a hypothetical multi-family housing project.

Cost and expense data for this prototype development were obtained from a non-random sample of various firms currently developing rental housing with tax-exempt mortgage financing. Although these developments are being financed under the tax-exempt program, the construction cost and expense data are thought to be representative of current costs for this type of development, regardless of the type of financing utilized.[4] Exhibit I contains the breakdown of development costs, operating costs, and the federal income-tax treatment of certain costs for the baseline case being analyzed.

Exhibit I

BASELINE CASE COST DATA

Development Costs:

Land	9.6%
Direct Costs	72.0
Soft Costs	7.0
Interest	8.0
Property taxes	.5
Loan fee	3.0
Total development cost	100.0%*

*includes normal profit allowance

Financing:

Permanent mortage loan as % of value	75.0%
Interest rate*	17.0%
Amortization	25 years
Term-to-maturity	15 years

*on permanent and interim loans

Operating data:

Development period	1 year
Normal vacancy	5%
Operating expenses	35% - increasing to 45% over period of analysis
Selling expenses	5.5%
Rent-to-cost ratio	13.7%
Investment period	16 years

Tax treatment:

Land - capitalized
Direct Costs - capitalized and depreciated over 15 years and 175% of straight-line
Soft Costs - 2% expensed, remainder capitalized and amortized over 15 years
Interest and Property Tax - 3% expensed, remainder capitalized and amortized over 8 years
Loan fee - amortized over life of mortgage

Investor tax rate - 50%, capital gains rate - 20%

Project description - Garden apartment development, 150-250 units, average sq. ft. = 750-800 per unit, suburban location in a large metropolitan area

With regard to development costs assumed in the baseline case, it should be pointed out that the proportion of land cost to total cost shown in Exhibit I will vary with the location of a project in any housing market. However, because all of the financing options proposed by GAO require that at least 20% of project occupants earn incomes below 80% of the median household income in a market area, this will tend to preclude new, large-scale development in locations where land costs would comprise a significantly higher proportion of total costs. This requirement will result in some conformity in new project developments both in terms of cost and location.[5] Other information shown in the Exhibit relating to financing is based on prevailing rates of interest and a loan-to-value ratio thought to be representative of what would be available to developers assuming that a project were economically feasible.[6] Operating cost and vacancy data are based on survey data collected nationally for comparable structures.[7]

To examine the problem of financial feasibility, cost data shown in Exhibit I were combined with average market rents prevailing in areas where development is being undertaken. Estimates of rates of return on equity, both before and after taxes, and cash flow projections were then made initially assuming financing was obtainable at current market interest rates. A description of the model used in this study to measure return on investment is contained in Appendix A to this report.

Projections were based on three scenarios of inflationary expectations. In each case, rents and property values (adjusted for economic depreciation) were assumed to increase at a rate of 6, 8, or 10 percent.[8] Developer profits were assumed to be the difference between equity invested by the developer and the market value of the developer's equity interest after completion of the project. It was assumed that permanent financing initially represents 75

percent of total development cost. Total development cost was assumed to equal total outlays for land and improvements, plus a normal profit allowance. Alternatively, it was assumed that total outlays for land and improvement plus a normal profit allowance would equal the market value of projects, which then could be sold, syndicated or owned and operated by developers. In the latter event, developers would earn a normal profit on development, which would increase equity invested in projects. Competitive returns would then be earned on that equity.[9]

Simulation results shown in Exhibit II provide important insight into current problems relating to the financial feasibility of rental housing development. Based on average market rents from the small sample of projects for which data was available and the cost breakdowns and other assumptions contained in Exhibit I, it can be seen that assuming current mortgage interest rates of 17% and assuming inflation rates persist in a range from 6% to 10% over the period of analysis, an equity investor would earn an after-tax yield of from 14.7% to 22.8% on equity invested during the period of project ownership.[10] Based on current after-tax returns on tax-exempt securities and other fully taxable investments, yields estimated under the 8% and 10% scenarios appear reasonable. However, based on an inflation senario of 6 percent the estimated 14.7% yield does not look attractive relative to yields prevailing at the time of this study.[11] Herein lies the dilemma facing all investors in the current economic environment. Given a 17 percent mortgage interest rate and expectations by producers of possible disinflation, or a decline in the rate of increase in inflation, interest rates would have to fall from current levels before development occurs. On the other hand, if inflation is expected to persist in the 8 to 10 percent range, development would appear to be more

Exhibit II

SIMULATION RESULTS - BASELINE CASE ASSUMPTIONS

Baseline Case	Rate of Inflation	Rate of Return Before Tax	Rate of Return After Tax	Years of Negative Cash Flow
Interest rate = 17%	6%	7.4%	14.7%	9
	8	12.5	18.9	6
	10	17.2	22.8	4
Interest rate = 16%	6	8.7	16.0	8
	8	13.7	20.1	5
	10	18.3	23.8	3
Interest rate = 15%	6	10.1	17.3	6
	8	15.0	21.2	4
	10	19.5	24.9	3
Interest rate = 14%	6	11.5	18.6	3
	8	16.3	22.4	2
	10	20.7	26.0	1

feasible. In as much as development activity is depressed, it is partially due to divergent expectations in financial markets as to the direction of inflation, resulting in little if any downward movement in interest rates. This is, ostensibly, the motivation for the subsidy proposals evaluated in this study, that is to reduce the supply cost of rental housing to some threshold where development becomes feasible.

The above problem is further complicated in that even in the 8 and 10 percent inflation scenarios where investment returns look plausible, the imbalance between cash flow and tax shelter in the make-up of investment returns may be contributing to the current feasibility problem faced by developers. For example, in Exhibit II it can be seen that before-tax returns from cash flow are less than after-tax returns. Herein lies an additional problem relating to financial feasibility. At current interest rates, if inflation persists in the range of 8%, or above, projects appear feasible when analyzed on an after-tax basis. However cash flow projections, which lenders analyze very carefully in underwriting decisions, are low. Facing this problem, investors must finance cash deficits for a period of 4-9 years after project completion to realize the longer term after-tax yields. Because of this problem, lenders must not only assess the economic feasibility of the project to cover debt service, but also must assess the ability of investors to provide additional cash during each operating period.[12] Alternatively, developers could raise more equity relative to debt to reduce debt service. However, this could reduce profitability due to loss of leverage and would require additional syndication services which would increase the cost of raising equity capital and tend to discriminate against small-scale development.

The problem just discussed is somewhat unique to real estate investments. The normal case for most investment opportunities is that after-tax yields

tend to be less than before-tax yields.[13] The reasons for the rather unusual relationship between before-tax and after-tax yields on real estate and the prolonged period of negative cash flow when compared to other investments are twofold. First, the Economic Tax Recovery Act of 1981 provided investors in real estate with significantly higher tax shelters than existed prior to 1981 and provided even more favorable tax treatment of capital gains from appreciation in property value (from which the largest component of the after-tax return is derived). Estimates of increased benefits from additional accelerated depreciation now available on multi-family investments have ranged as high as 40% of benefits available prior to ERTA.[14] Second, the effective reduction in capital gains tax has increased the process of "conversion" of ordinary income to capital gain income by investors in the determination of value. This "conversion" results in investors being very willing to "trade off" cash income during the early years of the life of an investment property for capital gains which are later taxed at lower tax rates in achieving their desired yield.[15] Hence, in some respects, the increase in favorable tax benefits provided to real estate investors by ERTA may presently be working against the financial feasibility of some projects.[16]

To examine the sensitivity of cash flow and mortgage interest rates, several more simulation runs were carried out under the same inflation scenarios but at lower mortgage interest rates. As shown in Exhibit II, as the interest rate is lowered, both before- and after-tax returns on investment increase and the number of years that negative cash flows occur declines. However, it should be noted that the after-tax returns are relatively insensitive to reductions in the mortgage interest rate. Again, this is because of the very large weight that "tax shelter" components have relative to cash flow in the determination of the return. The tax shelter components of the return (made

up of accelerated depreciation, development write-offs and capital gains), are relatively insensitive to the mortgage interest rate, hence financial feasibility appears not to be enhanced as significantly as might be expected, as interest rates are reduced.

Finally, one additional point should be made regarding financial feasibility of multi-family projects, that is, the use of conventional, fixed monthly payment patterns in multi-family rental developments. Traditionally, loans on these properties, like single-family properties, have been repaid with constant monthly payments. While some loans may be made with a call, or term, provision that is less than the amortization period, the well-known "tilt problem," brought about by inflation and usually associated with traditional single-family mortgage financing, also applies to multi-family properties. This problem manifests itself as shown in Figure 1:

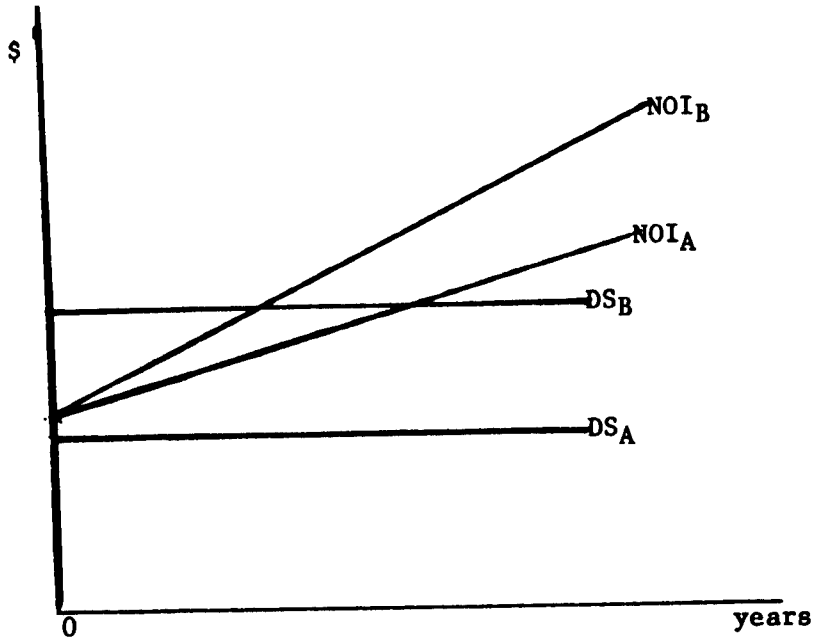

Figure 1

As shown in Figure 1, DS_A represents debt service that would relate to mortgage financing of projects in a stable inflationary environment. This debt

service relates to NOI_A or net operating income (rent less operating expenses) in a way which leaves excess cash flow, or margin of safety $NOI_A - DS_A$ in period o. As inflation expectations increase (as occurred during the latter 1970's), interest rates increase sharply and DS_B increases relative to NOI_B.[17] Assuming constant monthly payments, a deficiency $DS_B - NOI_B$ results in period o, and therefore, the difficulty with financial feasibility. At this point, developers are faced with the option of trying to lower the amount borrowed, thereby reducing debt service as previously pointed out. However, raising more equity reduces the advantage of leverage. Alternative financial instruments utilizing graduated payments, participation in appreciation upon sale, deferred interest with large balloon payments and other modifications are being used to combat the tilt problem. However, there is still a general lack of acceptance of these instruments by lenders and developers of multi-family projects. This is generally thought to be due to a divergence of opinion by developers and lenders regarding the long-run growth in the demand for rental property and/or a divergence in expectations concerning rates of interest and inflation.

In summary, based on current levels of mortgage interest rates, many multi-family projects appear not to be financially feasible in many otherwise viable urban housing markets. This appears to be true even because of uncertainty in expected appreciation in rents and property values and hence in after-tax rates of return. Further, problems relating to the financial feasibility of multi-family projects has also been a partial cause in the reduction in rental housing starts. These problems seem to be related to low cash flow projections on projects for relatively long periods of time. Low cash flows, even in markets that are economically viable, seem to be affected by three influences: the large tax shelter advantages enjoyed by investors, slow

modifications in traditional modes of mortgage financing by lenders and borrowers and a divergence of opinion regarding rates of appreciation and inflation. Further, such cash flows appear to be relatively insensitive to reductions in the mortgage interest rate because of the major role that tax shelter plays in the determination of investment returns.

Incentives and Subsidy Costs Necessary to Induce Development

In the preceding section, the problems relating to satisfying financial feasibility requirements, competitive after-tax return to investors, and divergent expectations regarding inflation and interest rates were highlighted. In this section, estimates of the minimum subsidy cost likely to induce rental housing production are made based on assumptions necessary to satisfy certain conditions regarding financial feasibility and after-tax profitability. To accomplish this, the model used to make the estimates shown in Exhibit II was constrained to require the baseline project produce some positive cash flow in each period of ownership and provide investors with after-tax yields of 15, 17 and 20 percent in equity invested during the period of investment.[18] This simulation was carried out by considering combinations of reductions in the interest rate necessary to produce positive cash flows before tax, while simultaneously determining the maximum balloon payment possible in the year of sale such that when combined with after-tax cash flows from operating the property, would provide investors with required after-tax yields. An estimate of the subsidy cost necessary to induce development was then determined by taking differences in after-tax cash flows in each operating period and in the year of sale from the latter exercise and results from after-tax cash flows estimated in the baseline case, then discounting the differences to present value by the respective required return on equity. The present value

Exhibit III

ESTIMATES OF SUBSIDY AS A PERCENTAGE OF DEVELOPMENT COST

NEEDED TO INDUCE NEW RENTAL HOUSING DEVELOPMENT

Required after-tax return on equity to investors	Minimum subsidy cost as % of development cost Rate of Inflation:	6%	8%	10%
15%		6%	-	-
17%		9%	2.5%	-
20%		12.7	7.9	1.4%
		Expected value =		4.4%

resulting from this procedure represents an estimate of the subsidy cost deemed necessary to induce development. Results of this analysis are shown in Exhibit III.

Results in Exhibit III should be interpreted as the proportion of project cost, given required rates of return after taxes and given three inflation scenarios, that would provide an adequate incentive for developers to produce rental housing. Hence if a rental unit costs $30,000 to produce, and inflation is expected to be 8 percent for the foreseeable future, and investors demand an after-tax yield of 17 percent, a subsidy of $750 per unit (2.5% x 30,000) would be needed to induce production. Another point to be made here is that these estimates of subsidy cost are highly dependent on inflation expectations and assumptions regarding required returns. Because of this, subsidy options that are designed with provisions that are tied to movements in rents or property values are more likely to be most cost effective. This point will be amplified later in the paper.

Although these estimates are presented as percentages of total development cost, which is analogous to a tax credit or tax-free grant, the subsidy could take many forms that would be equivalent to the percentages shown in the Exhibit. The primary purpose for expressing the subsidy cost in the manner shown is to facilitate comparisons among all options analyzed in the study. No inference should be made that simply because subsidy costs are shown as a percentage of development cost that grants or "up front" subsidies are the preferable approach to providing subsidies to developers. Rather, these percentages can be thought of as targets or ranges of subsidy costs that would make any programmatic options most cost effective, in terms of providing adequate after-tax return to investors and reducing cash flow burdens as viewed by lenders.

Evaluation of Options Proposed by GAO to Stimulate Multi-Family Production:

(1) Shallow Tandem

One option proposed by GAO as a possible stimulus to multi-family housing production is a financing proposal which would provide for mortgage loans to be originated with debt service based on interest rates as much as 4% below market, but not below 11%. Any interest differential between the rate used to compute debt service and the prevailing market rate of interest (on the discount) would be absorbed by GNMA, then repaid when a project is sold or refinanced.

Ostensibly, this proposal would provide for a level of debt service low enough in the initial operating years of projects to enhance financial feasibility by deferring interest until sale. It should be pointed out that a form of this option is already in use in the development of many office building projects and in a more limited number of multi-family developments in markets where unemployment is below the national average.[19]

To analyze the Shallow Tandem option, two simulation exercises were undertaken. One set of computations was carried out based on the same data utilized to provide estimates of rates of return in Exhibit II. However, the interest rate was reduced to 13 percent, to represent the maximum allowable discount (4%) that GNMA may absorb. A balloon payment large enough to fully repay the initial discount absorbed by GNMA and to yield 17 percent at maturity was also included in the analysis. Estimates of after-tax rates of return and cash flow patterns were made and are shown in Exhibit IV.

Looking at Exhibit IV, results show that at very low rates of inflation in property values and rents, say in a range of 6 percent or less, projects would provide very low rates of return to investors relative to the baseline case (Panel A) where no government intervention was assumed. Cash flow

Exhibit IV

A. Estimates of Rates of Return and Cash Flow Patterns -- Shallow Tandem Option

(1) Option	(2) Rate of Appreciation	(3) Return on Investment After Taxes	(4) Years of Negative Cash Flow
Baseline Case	6%	14.7%	9
	8	18.9	6
	10	22.8	4
Shallow Tandem	6	11.4	3
	8	17.3	2
	10	21.6	1

B. Estimated Subsidy Provided by Shallow Tandem

(1) Rate of Inflation	(2) Required Return on Equity (after tax)	(3) Present Value of Subsidy Provided	- (4) Present Value of Subsidy Required to Induce Production	= (5) Excess (+) or Deficiency (-)
6%	15%	- .3%	6.0%	- 6.3%
	17	.9	9.0	- 8.1
	20	2.2	12.7	-10.5
8	15	- .8	-	- .8
	17	.6	2.5	- 1.9
	20	2.0	7.9	- 5.9
10	15	-1.1	-	- 1.1
	17	.4	-	+ .4
	20	.9	1.4	- .5
	expected value	.5	expected value	- 3.9

burdens improve significantly because of the lower debt service requirements brought about by the tandem program. However, the deferred interest element of this proposal results in a very large balloon payment requirement in the 15th year. Even though this deferred interest element was assumed to be fully tax deductible in the year of sale,[20] at a 6 percent rate of appreciation in property value, after-tax benefits to investors are not increased relative to the baseline case. Only as the expected rate of inflation approaches the range of 8-10 percent does the rate of return after taxes improve under this option. In the latter cases, profitability increases but is still low relative to the baseline case example under the same inflation scenarios. In short, from the perspective of a developer assessing whether or not to undertake construction of rental housing under this option, it is clear that although the cash flow burden is reduced, profitability is probably less than competitive with other alternatives and would not provide a satisfactory incentive for development.

The value of the subsidy provided to developers under the Shallow Tandem option was estimated by first modifying the basecase variables to include program provisions. The discounted present value of the difference in annual after-tax cash flows from operation and from the sale of the project under basecase and Shallow Tandem assumptions was found at 15, 17 and 20 percent required after-tax rates of return. This procedure provides an estimate of the depth of the subsidy implicit in the Shallow Tandem provisions. These estimates can then be judged relative to the "benchmark" on estimated subsidy deemed necessary to induce development and some idea as to the relative effectiveness of each option can be obtained. Assuming that the estimates of subsidies required to induce development are reasonable, options that are most effective, in the sense of making development feasible, would result in zero

excess or deficiency in column 5 of Panel B. Values in both columns (4) and (5) are discounted to present value and expressed as a percentage of development cost. Hence results are directly comparable.

A further word on interpretation is needed. Results in column (3) of Panel B in the Exhibit indicate that at expected inflation rates of 6, 8 and 10 percent at a required return of 15 percent, the Shallow Tandem option would provide a negative subsidy, or impose a cost on developers. This result comes about because of the loss of the present value of the tax deduction on mortgage interest which is deferred until the year of sale.[21] This effect is offset as higher rates of inflation are considered, but nonetheless points out a serious flaw with the structure of the program and the risk facing investors should low rates of inflation occur.[22]

In summary, based on results shown in Panel B in Exhibit IV and assuming the benchmark after-tax returns and cash flow requirements established in the preceding section are reasonable estimates of what is necessary to induce development, the Shallow Tandem Option would probably not be an effective program to encourage development.

(2) The Interest Rate Subsidy Program

This option would enable developers to borrow up to one-third of interest payments made on mortgage loans in the form of a second lien, as long as interest rates on first mortgages exceed 14 percent. This second lien would accrue interest at the government borrowing rate until the projects were sold, or refinanced for a period of up to 15 years, whichever occurred first. At that time, a balloon payment would be made composed of the lower of either (1) the unpaid balance on the first lien, plus accrued interest on the second lien, or (2) the unpaid balance on the first lien plus 60 percent of the project's appreciation (defined as selling price in excess of original cost).

Provisions relating to this option were incorporated in the base case and simulations run under some three scenarios of anticipated inflation used to analyze the Shallow Tandem option. A 17 percent rate of interest was used to compute debt service on the first lien and a 14 percent rate was chosen as the debit rate (government borrowing rate) in computing the balloon payment on the second lien.[23] Results shown in Exhibit V indicate that, based on rents prevailing in areas where development is presently occurring, estimates of return on investment with the Interest Rate Subsidy rise appreciably relative to the base case where it was assumed that financing was undertaken at prevailing rates of interest. Also, positive cash flows occur relatively early in the life of the project, thereby enhancing financial feasibility. However, unlike the Shallow Tandem option previously discussed, there is a more favorable after-tax return on investment and positive cash flows occur even at relatively low rates of anticipated inflation (see the 6% case shown in Panel A). These results occur because of (1) the reduction in debt service due to the reduction in the initial rate of interest and (2) the subsidy which takes the form of a lower balloon payment (based on 60% of appreciation) rather than a payment designed to provide lenders with market yields on mortgages as was the case with the Shallow Tandem. Indeed, balloon payments based on the 60% of appreciation option would be preferable to developers in two of the inflation scenarios, 6% and 8%. In these cases, that payment would always be chosen over the balloon payment required to repay the mortgage balance on the first lien and the balance on the second based on the government borrowing rate. The latter option would be chosen only in the 10% inflation scenario, when 60 percent of appreciation results in a sufficiently large repayment to make it the less desirable choice.

Exhibit V

A. Estimates of Rates of Return and Cash Flow Patterns -- Interest Rate Subsidy Option

(1) Option	(2) Rate of Inflation	(3) Return on Investment After Taxes	(4) Years of Negative Cash Flow
	6%	14.7%	9
Baseline	8	18.9	6
Case	10	22.8	4
Interest	6	16.0	0
Rate	8	19.4	0
Subsidy	10	22.6	0

B. Estimated Subsidy Cost -- Interest Rate Subsidy

(1) Rate of Inflation	(2) Required Return on Equity (after tax)	(3) Present Value of Subsidy Option	- (4) Present Value of Subsidy Required to Induce Production	= (5) Excess (+) or Deficiency (-)
	15%	5.0%	6.0%	- 1.0%
6%	17	5.1	9.0	- 3.9
	20	5.2	12.7	- 7.5
	15	3.5	-	+ 3.5
8	17	3.9	2.5	+ 1.4
	20	4.2	7.9	- 3.7
	15	1.9	-	+ 1.9
10	17	2.7	-	+ 2.7
	20	3.4	1.4	+ 2.0
	expected value	3.9	expected value	- .5

The present value of the Interest Rate Subsidy option to developers was estimated using the procedure discussed in conjunction with the Shallow Tandem option. Essentially after-tax cash flows from operation and sale of the project per baseline case assumptions were subtracted from after-tax cash flows given the Interest Rate Subsidy option under the three inflation scenarios, and the differences were discounted at the indicated required rates of return on invested equity. Results show that the Interest Rate Subsidy option would provide investors an explicit subsidy that would range from 1.9 to 5.2 percent of development costs (column 3, Panel B). Alternatively, government would have to borrow an amount ranging from 1.9 to 5.2 percent of per unit cost to induce production of rental housing units under this approach. In terms of its effectiveness, at low rates of inflation this option would be somewhat deficient; however this pattern improves as the expected rate of inflation increases. Assuming all scenarios of required rates of return and expected inflation are equally likely, the expected value of the excess or deficiency (column 5) tends very close to zero. Hence, to the extent incentives required to produce rental housing (column 4) are reasonable, this option appears to be relatively effective.

In summary, the Interest Rate Subsidy or "no name" option appears to be superior to the Shallow Tandem option as far as the likelihood of promoting production of multi-family construction is concerned. This is the case because a specific subsidy is being made to reduce both the cash flow burden and increase potential profitability to developers/investors. With the deferred interest, or "recapture" feature, there is some likelihood that subsidy costs would be reduced relative to a fixed interest rate - level payment proposal, which is a favorable attribute of this program.

This program, if implemented, involves a higher subsidy cost than the Shallow Tandem approach. However, some modifications can be made to this option which may make this approach both more cost effective and acceptable to developers. First, assuming that GNMA is used to implement this program, a competitive commitment mechanism, via mortgage bankers or other intermediaries, could be used as opposed to specifying a fixed below-market rate of interest available to all borrowers. By using this approach, developers would bid the highest interest rate possible, while still maintaining project feasibility, thereby reducing subsidy cost. Second, the program should be simplified. It is not necessary to create a second lien and defer interest at the government borrowing rate to induce borrowing by developers. The same outcome can be achieved by designing a program with a reduction in the interest rate and combining graduated payments and/or a deferred interest or "recapture" as a part of the balloon payment. Such a modification would make the program better understood by both developers and lenders.

When market acceptance of this program is considered, it must be pointed out that this program would be in direct competition with existing Tax-Exempt Mortgage programs. In markets where development is most likely, it would generally be the case that developers may opt for funds from Tax-Exempt programs rather than compete for funds by bidding under an interest subsidy program. This is because the rate of interest offered under the Tax-Exempt program, may be lower than what developers could bid under a Mortgage Interest Rate Subsidy program. Hence, the prevailing rate of interest on Tax-Exempt Mortgage Bond financing may represent a maximum rate that developers are likely to pay under an Interest Rate Subsidy program. It may be that if a Mortgage Interest Rate Subsidy program were deemed the best option, the Tax-Exempt program would have to be modified.

Finally, it should be stressed that the likelihood of substitution of units produced under an Interest Rate Subsidy program for units that would have been produced with no interest rate subsidy is high. Given that developers in markets where the probability of financial feasibility of projects is the highest are most likely to utilize such a program, then it follows that the likelihood of substitution will also be greatest. In general, the most significant effect that one would expect from a program such as this would be in t timing of new units produced. With an interest rate subsidy as proposed, more units would be produced sooner that may have been produced eventually anyway. Hence, the substitution effect may not be immediate but would take place over time. The net effect would probably be an increase in production in the short run, at the expense of the long run, with some net increase in starts due to a reduction in supply cost.

(3) Tax-Exempt Mortgage Financing

This option would provide for an increase in the arbitrage limit allowed to housing finance agencies in an attempt to encourage financing of multi-family starts through financial intermediaries. In many housing markets, this program is being presently utilized for multi-family rental projects. The proposed option would ostensibly add to the incentive for housing finance agencies to promote the use of this method of financing.

At the outset, it should be pointed out that in markets where the likelihood of development of multi-family units is greatest, utilization of this program would probably dominate both the Shallow Tandem and Interest Rate Subsidy programs if a choice were available among the three. This is because (1) the Tax-Exempt program does not provide for any deferred interest, or "recapture," (2) it significantly reduces the cash flow burden because of the below-

market interest rate available because of the tax-exempt status of the bonds, and (3) it enhances the potential after-tax profitability to equity investors because of reduced interest costs.

An evaluation for this option was carried out under the assumption that with the increase in the arbitrage limit, permanent mortgage interest rates available to developers would rise from current levels of 13.5 percent to 13.75 percent, with a 40 year amortization schedule. Financing fees were set equal to 5 percent and it was assumed that mortgage debt would equal 65 percent of project cost.[24] The latter restriction tends to encourage a positive cash flow immediately upon completion of the project. The positive cash flow requirement, in turn, results in positive debt service coverage which is a current underwriting requirement of this program.[25] However, the increase in the arbitrage limit would increase the cost of funds to developers, thereby reducing the present value of the subsidy.

Estimates of profitability and the present value of subsidy provided by the Tax-Exempt Mortgage Bond option are shown in Exhibit VI. In Panel A, it can be seen that both profitability and cash flow burden are significantly improved under this option relative to the baseline case and to both the Shallow Tandem and Interest Rate Subsidy options.

The present value of the subsidy provided to developers under this approach is very similar to both what is thought necessary to induce production (Exhibit III) and the Interest Rate Subsidy option. This cost of this option comes about because of the obvious interest rate differential between the fully taxable mortgage interest rate (17%) and the tax-exempt interest rate (13-3/4%) assumed in this analysis.[26] However these benefits may not appear to be completely reaped by investors because estimates of returns on investment (Panel A, Exhibit VI) in the inflation and rate of return scenarios shown are

Exhibit VI

A. Estimates of Rates of Return — Tax-Exempt Mortgage Bond Option

(1) Option	(2) Rate of Inflation	(3) Return on Investment After Taxes	(4) Years of Negative Cash Flow
	6%	14.7%	9
Baseline	8	18.9	6
Case	10	22.8	4
Tax-Exempt	6	16.9	0
Mortgage	8	20.0	0
Bonds	10	23.0	0

B. Estimated Subsidy Cost — Tax-Exempt Mortgage Bond Option

(1) Rate of Inflation	(2) Required Return on Equity (after tax)	(3) Present Value of Subsidy This Option	− (4) Present Value of Subsidy Required to Induce Production	= (5) Excess (+) or Deficiency (−)
	15%	5.3%	6.0%	− .7%
6%	17	4.0	9.0	− 5.0
	20	2.4	12.7	−10.3
	15	5.3	−	+ 5.3
8	17	4.0	2.5	+ 1.5
	20	2.4	7.9	− 5.5
	15	5.6	−	+ 5.6
10	17	4.2	−	+ 4.2
	20	2.6	1.4	+ 1.2
	expected value	4.0	expected value	− .4

roughly equivalent to the Interest Rate Subsidy option. The major benefit of the subsidy cost under this option seems to be in the form of risk reduction to investors in the bonds. The lower debt ratio (65%) needed to bring about positive cash flows early in a project's life, thereby reducing default risk, comes at a significant, and perhaps excessive, cost.[27] Given that traditional underwriting practices have usually provided mortgage financing at a greater percentage of value, the risk reduction under this option may be too conservative. Another negative aspect of this subsidy mechanism is the prospect of windfall profits, which may occur if high rates of inflation persist and shortfalls and hence lower participation if disinflation occurs. Unlike the Interest Subsidy option which has a recapture or participation option that reduces the variability in subsidy costs, the Tax-Exempt option does not.

As far as increases in rental housing production under this option, it would probably not result in significantly more than the Interest Rate Subsidy proposal. This is because profitability appears not to be significantly higher under this approach. Hence, this approach will probably not increase production relative to the Interest Rate Subsidy option.

One final observation should be made concerning this Tax Exempt-Bond Financing option, that is, the additional cost to the federal government of raising funds in the capital market. There is a considerable literature[28] dealing with the added cost to the federal government of tax-exempt financing because of tax revenue losses. This additional cost of raising funds has <u>not</u> been taken into account in column (3) of Panel B. Hence, the percentage of project cost, which is equivalent to the amount of funds which must be realized by developers to increase production, may underestimate the actual subsidy cost of tax-exempt bonds, relative to other subsidy alternatives analyzed in this study. To the extent that there are additional costs associated with

raising capital, not reflected in this analysis, this would tend to make this approach even less desirable from the standpoint of cost effectiveness.[29]

(4) Increasing the Financial Allowance Factor (FAF) - Section 8

This option would provide for an increase in the subsidy amount given to developers utilizing tax-exempt mortgage financing in developing Section 8 units.[30] The subsidy would be based on the difference between 90 percent of development costs financed at 8 percent, formally the maximum rate of interest allowed in the determination of rental subsidy payments under Section 8, and 90 percent of cost financed at an interest rate equal to one-half percent below the prevailing tax-exempt mortgage bond rate. The maximum rate that HUD would subsidize at the time of this study was 12-1/2 percent.[31] However, the actual borrowing rate facing the developer would be dependent on the interest rate available in the tax-exempt mortgage bond market, plus any arbitrage charged by the issuing agency. To keep consistency with the Tax-Exempt Mortgage option analyzed earlier, that borrowing rate was assumed to be 13.5 percent. The same underwriting standard involving debt service coverage that was used in the analysis of the Tax-Exempt Mortgage Bond option (1.10) was also used in this analysis. This coverage requirement, when computed at 13.5 percent interest, reduces the amount of debt that can be used to approximately 80 percent of cost.[32]

The effect of this subsidy on developer/investor returns was found by modifying the baseline case for this financing subsidy. Total revenue to the developer in this case is equal to some amount of rents, plus a financing subsidy such that when actual debt service and operating costs are paid, both the debt service coverage standard and the 10 percent cash return on equity limitations are met. These modifications were made to the baseline case assuming

that all financing would be based on a 40 year amortization schedule with additional financing fees of 5 percent charged to cover costs associated with bond financing.[33]

Estimates of profitability and cash flow from operating under such a subsidy option are shown in Exhibit VII. As shown in the exhibit, profitability is considerably higher and the cash flow burden is vastly improved relative to the baseline case. However, the subsidy cost of producing units under Section 8 is also very high. As shown in Panel B of the Exhibit, the subsidy cost is broken into two parts, the after-tax cost of the below-market interest rate financing and a memo item representing an estimate of the after-tax present value of HUD's contribution to rent for subsidized tenants.

The value of the financing subsidy to the developer under the Section 8 program was calculated by first determining after-tax cash flows earned on a project with a 13.5 percent mortgage interest rate and the proposed subsidy, including the 10 percent profit restriction on current equity. After-tax cash flows from the base case were then subtracted and the difference was discounted to present value at the assumed required rates of return. Results shown in Panel A of Exhibit VII indicate that after-tax returns to Section 8 developers would be quite high, based on the assumptions made in this example. This is true even with profit restrictions, because of the higher leverage ratio (80%) available under this option when compared to others considered in the study. Should this option be considered as part of a production stimulus plan, it may be desirable to make some additional modifications in the structure of the subsidy program to bring investor returns more in line with market returns. However, it should be pointed out that these estimates may be biased upwards, as the same depreciation factor used under options previously analyzed was also used to estimate property values for Section 8 projects.

Exhibit VII

A. Estimates of Rates of Return -- Section 8 Option

(1) Option	(2) Rate of Inflation	(3) Return on Investment (After Taxes)	(4) Years of Negative Cash Flow
Baseline Case	6%	14.7%	9
	8	18.9	6
	10	22.8	4
Section 8	6	25.3	0
	8	27.7	0
	10	30.6	0

B. Estimated Subsidy Cost -- Section 8

(1) Rate of Inflation	(2) Required Return on Equity (after tax)	(3) Present Value of Subsidy This Option (a)*	(3) (memo)**	(4) Present Value of Subsidy Required to Induce Production	(5) Excess (+) or Deficiency (-)*
6%	15%	13.1	74.6%	6.0%	+ 81.7%
	17	12.5	66.3	9.0	+ 69.8
	20	11.7	56.3	12.7	+ 55.3
8	15	10.2	84.2	-	+ 94.4
	17	10.1	74.3	2.5	+ 81.9
	20	9.8	62.5	7.9	+ 64.4
10	15	8.5	94.3	-	+102.8
	17	8.3	83.0	-	+ 91.3
	20	8.0	69.6	1.4	+ 77.6
	expected value	10.2	73.9	expected value	+ 79.9

*Subsidized financing only.

**Rent subsidy per unit occupied by subsidized households.

This depreciation estimate may be too low for Section 8 projects, particularly those with large percentages of subsidized tenants. Such a low estimate would overstate the returns reported in Panel A.

The memo amount shown in Panel B of Exhibit VII is an estimate of the present value of the rent guarantee, per unit of development, to developers. It was found by discounting the combined rental payments and additional subsidy payments for the faf adjustment to present value by the required rates of return on equity. This amount was then reduced by the present value of the financing subsidy (column 3(a), Panel B) to arrive at the present value of the rent stream that would be used in the determination of the rent subsidy. Seventy-five percent of that amount was assumed to represent the amount that would be received as the rent subsidy by the developer, taking into account the influence of the financing subsidy and profit restrictions in the computations. The rent subsidy, estimated to be 75 percent of market rents in this study is based on average unit costs for the baseline units in this study of $35,000, and prevailing market rents equivalent to 13.7% of that amount. Based on an average monthly contribution per tenant of $96.23, this results in a subsidy of approximately 75% of rent per unit.[34] The memo amount in Panel B then, should be interpreted as the equivalent of an upfront, tax-free grant, expressed as a percentage of development cost, that would be equivalent to a Section 8 rent guarantee for an average subsidized tenant for a period of 15 years.

Obviously a strict comparison of Section 8 subsidy costs with the costs of other approaches cannot be made because of the rent subsidy being provided to tenants likely to occupy Section 8 units. This added cost was not included in the analysis of the other options. If such a comparison were desired, the analysis of the other options would have to include a comparison of the

marginal benefits realized by tenants of rental housing produced under those options, relative to marginal benefits realized by tenants under Section 8. This comparison is beyond the scope of this study.

When viewed in terms of net additions to the housing stock, however, the Section 8 program, perhaps modified to reduce the subsidy costs, would probably be relatively effective. Programs of this type may be more effective than below interest rate proposals or tax credit proposals in more depressed areas of the country because of the uncertainty of housing demand in these areas. Section 8 and similar programs reduce this uncertainty with rent guarantees. It is also likely that tenants under this program are likely to be very low income households with a low likelihood of migrating to growing regions of the economy, hence this program may not interfere, to any significant extent, with reallocation of employable resources.

Finally, production of rental housing under Section 8 is not as likely to displace rental housing in the private sector, when compared with subsidies involving financing or tax credits. While some subsitution will come about through increases in interest rates as government finances these units, substitution in the real sector, that is, in the supply and demand for rental housing, will probably be far less than would be the cases under other approaches. Hence if an objective of the subsidy options being considered is to increase net additions to housing starts, production under Section 8 has far greater promise to achieve that objective than the other approaches.

(5) Investment Tax Credit (ITC)

This option would provide developers with an investment tax credit equal to 10 percent of development costs (exclusive of land and construction interest costs) not to exceed $4,000 per unit.[35] When such a credit is incorporated into the baseline case, two results become immediately obvious

(Panel, A, Exhibit VII). First, the cash flow burden is not improved relative to the baseline case because financing under this option would not be affected. Hence, to the extent financial feasibility is an impediment to development, an investment tax credit would not improve the cash flow burden. After-tax profitability increases markedly, however. As shown in column 2 of Panel A in Exhibit VIII, after-tax returns with the ITC option would be higher than those projected for all options previously analyzed. This increase in after-tax profitability comes about because of the "upfront" tax credit which, in turn, increases after-tax profitability while leaving before-tax cash flow relatively unaffected when compared to the base case.

The subsidy cost of this option would be approximately 6.8 percent of total development cost and is invariant to the rate of inflation, as it is equivalent to a lump sum grant. Looking to Panel B of Exhibit VIII, this option appears to be relatively cost effective (see column 5, Panel B). This would be the case assuming that tax credits and interest rate subsidies were equivalent in their impact on investor behavior.

However, this proposal is likely to be less effective than the options previously considered. The reason for this lack of effectiveness is because the ITC merely adds to the "tax shelter" component of investment returns in real estate. As previously discussed, provisions contained in the ERTA of 1981 dramatically increased tax benefits to investors and increased the weight of the tax shelter in investor returns relative to cash flow before tax. An ITC would further exaggerate this effect and may not materially enhance financial feasibility. The latter would improve only through a greater syndication effort that would provide a larger amount of equity capital by selling the additional tax shelter brought about by an ITC to investors, thereby reducing the amount of debt needed to finance a project. This reduced amount of debt

Exhibit VIII

A. Estimates of Rates of Return and Cash Flow Patterns -- Investment Tax Credit Option

(1) Option	(2) Rate of Inflation	(3) Return on Investment (After Taxes)	(4) Years of Negative Cash Flow
	6%	14.7%	9
Baseline	8	18.9	6
Case	10	22.8	4
Investment	6	19.0	9
Tax	8	23.3	6
Credit	10	27.3	4

B. Estimated Subsidy Costs -- Investment Tax Credit

(1) Rate of Inflation	(2) Required Return on Equity (after tax)	(3) Present Value of Subsidy This Option	(4) Present Value of Subsidy Required to Induce Production	(5) Excess (+) or Deficiency (-)
	15%	6.9%	6.0%	+ .9%
6%	17	6.8	9.0	- 2.2
	20	6.6	12.7	- 6.1
	15	6.9	-	+ 6.9
8	17	6.8	2.5	+ 4.3
	20	6.6	7.9	- 1.3
	15	6.9	-	+ 6.9
10	17	6.8	-	+ 6.8
	20	6.6	1.4	+ 5.2
	expected value	6.8	expected value	+ 2.4

financing would, in turn, reduce debt service, thereby enhancing financial feasibility.

This circuitous process of enhancing feasibility is likely to be less than effective when compared to one of the more direct interest rate reduction options previously discussed. Further, the cost of raising equity capital via syndication is likely to be more expensive when compared to costs associated with debt financing and the marketing effort associated with syndication may take a longer period of time. Finally, for small to intermediate-sized projects, which are normally not syndicated, this type of subsidy would probably be less effective than a finance-oriented subsidy program.

(6) The UDAG - Dodd Option

These options are grouped together because the approaches to providing subsidies to rental housing appear very similar. Essentially, the UDAG approach would provide a $5,000 per unit subsidy per rental unit for approved projects. Such projects would have to meet neighborhood targeting and matching-fund requirements that presently exist under the program.

Based on the provisions in these two options, it is very likely that rehabilitation projects would be more likely to receive the larger portion of funding because of the neighborhood targeting criteria, although some new rental housing is likely to come about. The only correspondence that can be made with previous options analyzed would be, in the case of new units, the Investment Tax Credit (ITC) option previously analyzed. However, a rough approximation can be made as to the cost and effectiveness of rehabilitation undertaken should these options be used. This approximation is based on the leverage ratio attained on rental housing under past UDAG programs. That ratio has averaged 4 to 1 in past applications.[36] This would imply that if a $5,000 grant were made for an approved project, such a grant would support

$20,000 worth of additional debt to be used for rehabilitation in urban markets, assuming the past leverage ratio is indicative of experience under this proposal. Such a 4 to 1 leverage ratio also implies that the $5,000 would comprise a 20 percent participation in the total sum expended on all rehabilitation projects. Considering that the average cost of producing baseline units was approximately $35,000 and only $25,000 worth of rehabilitation is likely to come about per $5,000 grant ($20,000 leverage funds plus the $5,000 grant), to the extent these proposals would be similar to past rehabilitation experience such grants are likely to bring about only 70% of production equivalent to the production of new rental units per dollar of subsidy. Hence one approximation of the cost per unit of development for this option would be 20% ÷ .70 or 28.5% of the cost per unit of equivalent new rental housing represented in the baseline case. While this cost estimate is crude, given the targeting requirements and the fact that rehabilitation work is usually more costly than new construction, it seems reasonable.

As for the effectiveness of such programs, like the Section 8 program, it is likely to be more effective in economically depressed areas where housing for the elderly done by non-profit sponsors or city agencies may be undertaken. These programs do not entail considerable risks to developers and, like the Section 8 program, may be more effective in areas where there are risks due to the lack of effective demand for housing because high unemployment is present. Also, housing produced under this option is not likely to be as substitutable for housing produced in the private sector because of targeting restrictions. While some substitution will occur for units produced in the private sector through capital market effects, this and the Section 8 option because of the lack of substitution in the real housing sector, have the greatest likelihood

of adding net new units, or rehabilitated equivalents, to the housing stock in the long run. However, these additions would come at a very high cost.

Summary

Exhibit IX provides a summary of results obtained under each of the options proposed as well as qualitative observations concerning the probable effect on financial feasibility and increases in the supply of rental housing.

Needless to say, with the exception of the UDAG/Dodd and Section 8 proposals, the remaining options appear to be very close in subsidy cost. Subsidy cost is defined as the equivalent of a tax-free grant expressed as a percentage of project cost that would have to be given to a developer to induce production. However, given current conditions prevailing in the market for rental housing, these options may not be equivalent in impact because of other considerations that are non-quantifiable, or because the cost associated with the government raising funds for one particular option may not be equal to costs under other options.

Of the first four options listed in Exhibit IX, all of which emphasize an interest rate subsidy, the Interest Rate Subsidy, or "no name" option would appear to have some merit. It appears to be a relatively low-cost subsidy that may be effective in simulating production in markets where unemployment is below the national average, and where many projects are at the "threshold" of financial feasibility and profitability. Although its "cost" and "effectiveness" are very close to that shown for the Tax-Exempt option, the latter option may cost more to the government because of interest foregone due to the tax exemption. Further, the risk of windfall returns to developers is greater under the Tax-Exempt option. This is because there is no "recapture" of deferred interest required, hence at high rates of inflation the possibility of profits in excess of competitive returns exists. However, in terms of

Exhibit IX

SUMMARY OF SUBSIDY OPTIONS

Option	Expected Value of Subsidy	Expected Value of Subsidy Needed	Excess (+) Deficiency (-)	Qualitative Estimates: Improvement in Financial Feasibility	Qualitative Estimates: Net Increase in Production, Near Term	Qualitative Estimates: Net Increase in Production, Intermediate Term
(1) Shallow Tandem	.5%	4.4%	- 3.9%	moderate	moderate	low
(2) Interest Rate Subsidy	3.9	4.4	- .5	good	moderate	low
(3) Tax-Exempt Mortgage Bonds	4.0	4.4	- .4	good	moderate	low
(4) Section (8) (faf)	10.2*	4.4	+ 5.8*	good	high	moderate
(5) Investment Tax Credit	6.8	4.4	+ 2.4	low	low	low
(6) UDAG/Dodd	28.5	4.4	+ 24.1	good	high	moderate

*financing subsidy only

additions to the housing stock, both programs would probably add a moderate increase in the production of rental housing in the very short run that would substitute for units produced in the longer run. This is because the interest rate subsidy would have the effect of raising interest rates in capital markets thereby reducing the supply and demand for unsubsidized housing and other goods. Also in real markets, the supply and demand for housing units that would have existed in the absence of the subsidy will reduce the effectiveness of the subsidy as households and producers substitute comparable subsidized for unsubsidized units.

As for the remaining approaches, the Investment Tax Credit proposal would probably do little to improve production as it does little to alleviate the problem of financial feasibility. The Section 8, UDAG/Dodd proposals would have much more of an impact in depressed markets where the probability of substitution of comparable units is lower. Further, in these markets, options that reduce risk to developers are more likely to be more successful than those providing interest rate reductions. This is because demand for housing in depressed markets is likely to be more uncertain. However, this increase in supply carries a higher cost. In the case of Section 8, subsidy cost estimates are highest, while under the UDAG/Dodd proposal they are somewhat lower because rehabilitation is being done as opposed to new construction. Selection of an appropriate option in the latter two cases lies in the choice of whether (1) new, or renovated existing housing is to be provided for households in segments of the market where substitution effects are less likely and (2) whether a combined program of housing production stimulus and a subsidy to low-income households is preferable to a housing stimulus program that does not consider the benefits provided to recipients of the housing produced.

Footnotes

[1]Such a substitution effect may involve projects of different quality and in different locations than projects funded under program subsidies, as developers of all types of housing would face higher interest rates.

[2]This effect would come about because of developers' response to the subsidized units themselves. To the extent developers would have supplied rental housing that would have competed with subsidized projects, there is a direct substitution effect in the real sector.

[3]It is well known that homeowners receive more beneficial tax treatment than renters. To the extent a more beneficial subsidy is given to homeowners as a part of the stimulus package under consideration, the subsidy options chosen for rental housing would be less effective. Such a possibility is not taken into account in this study.

[4]One could argue that the mix of funds utilized, i.e., debt versus equity would change depending on the cost of each. However, the proportional relationship between land and capital improvement, rents and operating expenses, would generally be invariant to financing.

[5]This assumption may not be true in cases where rehabilitation of existing housing is being considered. However, for new, large-scale development of modest rental housing in the 750-800 square foot per unit range, this assumption is reasonable. It should also be noted that with the exception of construction interest costs, the proportional cost breakdowns shown in Exhibit I are very similar to breakdowns contained in the 1972 Touche Ross - HUD study on investment in multi-family housing.

[6]There has been a trend toward the use of lower debt ratios in the current financial environment. This trend is probably due to the high real interest rate on mortgage funds and the relative weight of tax shelter in the determination of return on equity capital. Hence, if a "suitable" subsidy option is adopted for rental housing, it is assumed that the debt-to-value ratio will tend back toward 75 percent.

[7]See Income and Expense Analysis of Apartments, (Chicago: Institute of Real Estate Management, National Association of Realtors), various issues.

[8]Project appreciation rates and rents were adjusted for economic depreciation. Improvements were assumed to depreciate at a straight-line rate over an expected life of 70 years.

[9]It is difficult to estimate what "normal" development profits would be. Historically, in a more stable economic environment, when projects were completed and sold, it was reasonable to assume that buyers could finance the purchase price (appraised value) with a mortgage loan in a range of 75 percent of value. In this event, developer profits would be equal to the difference between equity invested by developers during development and approximately 25 percent of project value upon completion and sale. Subsequent owners would then earn a market return on equity although in many cases, projects may have been syndicated with the developer retaining a residual equity interest.

In this study, when the mortgage loan-to-cost ratio is varied under the various options considered, it is assumed that a normal profit is being earned by developers although it is not explicitly known, in most cases. This is believed to be a reasonable assumption, however, as developers would have to earn competitive returns if they are expected to increase production.

[10]After-tax yield is the rate of compound interest that equates all after-tax cash flows realized by investors from operation and sale of projects to equity invested. This rate of interest is also commonly known as the "internal rate of return."

[11]At the time of the study, yields on tax-exempt mortgage bonds ranged from 12 to 13%. Adding a reasonable risk and liquidity premium as compensation to equity investors in real estate, yield estimates of 18.9 and 22.8 percent, given inflation scenarios in the 8 to 10 percent range, appear plausible. However a 14.7% yield does not appear attractive relative to prevailing tax-exempt yields.

[12]Typically, lenders focus on before-tax cash flows in mortgage underwriting. Even if the baseline project appeared very profitable after taxes, lenders would be reluctant to evaluate the ability of individual investors to contribute additional cash for operation of projects each year, even though a large tax shelter may reduce their tax liability.

[13]For example, after-tax returns on common stocks and bonds would always be less than before-tax returns because interest and dividends are taxable and not "sheltered."

[14]For a detailed examination of the ERTA of 1981 see: W. B. Brueggeman, J. Fisher, J. Stern, "Rental Housing and the Economic Recovery Tax Act of 1981," Public Finance Quarterly, Vol. 10, No. 2, April, 1982, pp. 222-241.

[15]This principle can be easily illustrated. Assume an investment provides a taxable cash return of $50. The investor is in a 50% tax bracket and desires a 10 percent return (after taxes). The value of such an investment would be $50(1-.50) ÷ 10, or $250. The ratio of cash return to value is $50/$250, or 20%. Assume now that the $50 cash return is tax free, the value would be $50/.10 or $500 and the cash return-to-value ratio would be reduced to 10% as the tax exemption is capitalized into the price of the investment.

[16]It should be pointed out on the other hand, however, that reductions in tax benefits to investors in rental housing would raise rents and result in greater demand for owner-occupied housing, which is already given tax treatment that is preferential to rental housing.

[17]This effect can come about for two reasons. First, the nature of a fixed payment mortgage is such that as expected inflation rises, it will always rise faster relative to the income stream produced in the real sector. More importantly, however, it can also come about by a divergence in expectations of inflation by lenders who are making fixed commitments for relatively long periods of time and developers who estimate growth in income from projects over the same period.

[18]These rates of return were selected based on tax-exempt mortgage bonds which were yielding 12 to 13 percent at the time of the study, plus a 3 to 7 percent risk and liquidity premium. To the extent that the premium between yields on corporate bonds and corporate stock are paralleled in real estate debt and equity markets, the appropriate premium may be closer to 3 percent (see Brueggeman, Fisher and Stern, op cit.). However, it can be argued that the premium between real estate debt and equity investment should be greater due to the non-liquid nature of equity investment. Hence an upper bound of 7 percent was selected in this study. It should also be pointed out that during the 1970's, limited partners in one of JMB Realty Funds earned approximately a 20 percent return on equity after taxes, based on projections made by that firm for a 50 percent tax bracket investor.

[19]However, in many of these cases, lender participation based on a percentage of the appreciation in project value when sold or refinanced is used in lieu of the deferred interest pattern as proposed in this option. The reason that this modification has come about is to better allocate the risk of project appreciation or depreciation between the lender and borrower.

[20]If deferred interest were tax deductible each year rather than in the year of sale, after-tax returns would be equivalent to results in the baseline case.

[21]Again, if deferred interest was deductible each year, then after-tax returns would tend toward the baseline case result with the same improvement in cash flow burden, however.

[22]It is likely that if a 6 percent rate of inflation persisted, mortgage rates would fall thereby encouraging refinancing. Yields required by investors would also decline.

[23]The prevailing yield on government bonds with 10-15 year maturities was 14 percent at the time of the study.

[24]These assumptions are based on a recent survey of developers using this program to develop rental housing projects.

[25]There are other aspects of this program that were considered in the analysis. For example, when bonds are issued, proceeds are escrowed and earn interest during construction. The estimated cost of the construction loan is included in total development costs to be eventually drawn by the developer. To the extent the deposited funds and interest exceed interim interest payable at tax-exempt rates, the developer can benefit. However, this potential benefit is offset by the fact that a debt reserve must be established as a contingency against irregular interest payments on the bonds. These funds earn interest and are eventually distributed to the developer upon sale or when outstanding debt is repaid. Hence the developer may incur an opportunity loss while these funds remain on deposit, because they may earn a lower rate of interest than could be earned elsewhere. These aspects of the program were included in the analysis and were reflected as a reduction in financing fees associated with the bond issue.

[26]The subsidy cost of the tax-exempt option was found by computing the difference between 17 percent interest on 75 percent financing and 13.75 interest at 65 percent financing, after taxes, and discounting this difference to present value at the assumed required returns of 15, 17 and 20 percent respectively.

[27]There may be a possibility that a developer could find a second lien to increase the debt-to-value, or leverage ratio, and increase return on investment. To the extent this is possible, the rate of return estimates presented here are too low.

[28]For a discussion see: George Peterson, Tax Exempt Financing of Housing Investment, Urban Institute, Washington D.C., 1979.

[29]Obviously, the government should choose the least-cost alternative for raising funds to fund any of the options analyzed here. From the developer's standpoint the source of funds is irrelevant, only the benefit is of concern. Hence all estimates of subsidy cost made in this study represent the percentage of development cost that government must raise to provide subsidies to developers. Determining the most cost-effective way for government to raise funds for the subsidy is important, but beyond the scope of this study.

[30]Most recent production of Section 8 projects has been done using tax exempts. This is not the only source of funds that could be utilized. However, given current high levels of interest rates, it has been the most widespread approach.

[31]Per data supplied by GAO and HUD.

[32]This is because the HUD subsidy limit is set at 12-1/2%, while the developer must meet debt service based on 13-1/2% in our example. Because of the debt service coverage, requirement of 1.10, this implies a reduction in the amount available for borrowing by developers.

[33]The analysis provided here is strictly limited to Section 8 development for families. This analysis can be extended for projects designed for the elderly; however, it is not considered here.

[34]This, of course, assumes that a development comparable to the baseline project and its cost and fair market rent were used as a Section 8 project. To the extent Section 8 projects deviate in cost and rent from baseline assumptions, subsidy costs would increase or decrease accordingly.

[35]Land costs, interim interest and financing fees, and some soft costs were excluded from the development cost category. Also, more reduction in the depreciable basis of assets was assumed in the analysis.

[36]Per data supplied by GAO.

Appendix

The following model was used to estimate required after-tax returns on equity investment in this study. In this framework, cash outflows related to development costs (adjusted for tax considerations relevant to the development phase), after-tax cash flows from annual operating revenues less expenses, and after-tax cash flows from the sale of the property in some future year are discounted by a required after-tax rate of return until equality between inflows and outflows is achieved. More specifically, the after-tax rate of return (K) on equity invested in a real estate income property investment can be determined from:

$$\sum_{i=1}^{d} \frac{(TDC_i - DF_i)}{(1+K)^i} = \sum_{i=1}^{s} \frac{(R_i - O_i - I_i - P_i) - (R_i - O_i - I_i - D_i - A_i)t_o}{(1+K)^i} + \frac{V_s - B_s - S_s - G_s t_g - RC_s t_o}{(1+K)^s} \quad (1)$$

where: TDC = total development costs (demand price), including land (L) and normal development profit

DF = development financing,

d = end of development period,

s = holding period (years),

R_i = rental income in year i,

O_i = operating expenses, including property taxes, in year i,

I_i = interest on the mortgage paid in year i,

D_i = tax depreciation taken in year i,

A_i = amortization of construction interest and property taxes,

t_o = marginal ordinary income tax rate,

t_g = marginal capital gains tax rate,

P_i = principal portion (amortization) of the loan payment in year i

V_s = estimated value and selling price in year s,

S_s = selling and other transactions costs in year s,

G_s = capital gain, net of selling costs (S_s), resulting from sale in in year s,

RC_s = net excess depreciation (accelerated over straight line) which is recaptured upon sale (if relevant),

B_s = balance of mortgage in year s, and

K = nominal after-tax discount rate on equity investment in a property held for s years.

In the long run, we would expect that the present value of after-tax cash flows, when set equal to the present value of equity invested in the property (construction costs, less development financing), would result in the marginal investor earning a competitive, after-tax rate of return (K) if the property is held for s years.

In this study when analyzing each system, modifications were made to inputs where appropriate and the required rate of return (K) was solved. In estimating the value of subsidies to developers, differences in equation [1] for the baseline case, and equation [1] as modified for each option, were found and the discount rate (K) was specified as either 15, 17 or 20 percent. The discounted values of the differences were then expressed as a percentage of TDC.

(380587)

U.S. GOVERNMENT PRINTING OFFICE: 1982-381-843:2235

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