Housing Partnerships: A New System of Housing Finance

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1. Introduction

Owning a home is a high priority for the vast majority of American households. Since homeownership is seen as improving the quality of local public goods, expanding home ownership is a priority not only of private households, but also of the various branches of government. Currently the Federal Government provides public assistance to home owners through the mortgage interest deduction, HUD subsidies on high default FHA/VA loans, and a variety of other schemes. Generally, the housing market reflects a long and intricate private/public partnership.

Given the high cost of housing, the vast majority of households must take out a mortgage to finance a major portion of their home purchase. While in the past the mortgage finance system was seen as highly successful, attention has recently been focused on some dissatisfactions with the system. There are also questions concerning the fairness of the credit-granting process (see Carr and Megbolugbe [1993] for a survey of the issues raised in the Boston Fed study by Munnell, Browne, McEneaney, and Tootell [1992]). The end result is an increasing lack of public confidence in the institutions engaged in mortgage finance, and increased discussion of how to reform the system. Our goal in this paper is to explore an avenue of market reform that has the potential to reduce both the financial burden to households of owner occupation and the cost to taxpayers of the various government subsidies.

The perspective we adopt focuses attention on the sharp dichotomy between the two housing market alternatives of either renting a home or owning a home. If households want to move out of the rental market, they must take on full ownership of the property they will occupy. This typically entails a very large loan, and may in fact be prohibitively expensive both in terms of downpayment and in terms of interest expenses. We explore the feasibility of introducing partnership contracts into the housing market, with financial institutions and home occupants each taking partial ownership of the residence.

The arrangement we envisage is a limited partnership agreement with the purchasing household as the managing partner and the financial institution as the limited partner. In the simplest such form of contract, ownership of the property would be divided in fixed proportions between the household and the financial institution. As managing partner, the household would get the sole right to live in the property

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1Recent surveys show that important reasons for the preference for owning rather than renting a home are the perceived financial advantages, the additional security of tenure, and the association with improved neighborhood quality and quality of life overall (see Fannie Mae [1994]).

2Some of these questions have been prompted by the fall in homeownership rate during the 1980's which followed a long period of increasing ownership (see U.S. Bureau of the Census [1992]).
and to decide when to sell it. In return, the managing partner would have the contractual obligation to maintain the property in acceptable condition. Upon sale of the property, the final receipts net of direct sales costs would be split between the managing and the limited partner in proportion to their fixed ownership proportions. Of course partnership contracts would also involve a number of clauses aimed at mitigating any potential incentive problems, as outlined in the body of this paper.

One major benefit of these partnership agreements would be to reduce the amount of debt that households would have to take on in purchasing a home, thereby reducing the costs of housing consumption. The second major benefit would be to allow households to reduce the concentration of owner occupied housing in their asset portfolios, thereby helping to provide homeowners with a method to diversify fluctuations in the value of their home. Therefore, the partnership contracts would provide home owners with a method for taking capital out of their homes while at the same time diversifying their asset portfolio. In addition, the partnership contracts offer existing renters new options in affording home ownership, thereby expanding the pool of potential homeowners. Finally, the partnerships would allow existing home owners to trade up to larger houses.

In addition to their direct effects, the partnership contracts would have a number of indirect effects. The development of markets for trading partnership agreements would give rise to entirely new investment possibilities for current and prospective homeowners, and may have considerable impact on the nature of house price dynamics. If the partnership agreements came to be widely used, there may be a significant reduction in the various costs involved in the current set of public subsidies to housing, in particular mortgage interest deductibility and the default subsidies contained in the FHA/VA programs. In addition, the increased demand for housing would exert upward pressure on price and bring forth a supply response.

The remainder of the paper provides a more detailed introduction to the idea of housing partnerships. In Section 2 we outline key features of the current U.S markets for residential housing and residential mortgages. Section 3 provides the basic introduction to housing partnerships, and illuminates the benefits they would offer to home owners. Section 4 provides a detailed proposal concerning contract contingencies in the partnership agreements. Sections 5 and 6 present detailed proposals concerning the mechanisms that will need to be put in place in order to facilitate the supply and marketing of these contracts. Section 7 outlines a proposed role for the Agencies (Freddie Mac, Fannie Mae (FNMA) and Ginnie Mae (GNMA)), and also discusses important issues of public policy that will have major impact on the development of partnership contracts. Section 8 provides a more detailed discussion of the potential sources of demand for the partnership contracts. In Section 9 we step back to provide a general
assessment of partnership contracts in relation to other reform proposals that have been designed to improve the functioning of the housing market. This section also brings together relevant information on past institutional developments, and several current reform proposals that may be either complementary to or substitutional with partnership contracts. Section 10 opens a discussion of the possible broader economic implications of partnership agreements. Section 11 contains concluding remarks.

2. The Current U.S. Housing Market

In order to set the stage for our proposal, we first outline some important structural features of the U.S. residential housing market and mortgage lending process. The major topics we outline are:

(2.1) Tenure Choice,
(2.2) Obtaining a Mortgage, and
(2.3) Some Constraints on Potential Homeowners.

In Section (2.1) we outline factors that influence choice between the rental and the ownership portions of the market given the nature of the current U.S. housing market. An important conclusion is that there are many reasons for the current preference for ownership over renting among the vast majority of the U.S. population, especially those who have relatively stable medium term prospects. In Section (2.2) we explore the steps that must be undertaken in order to obtain mortgage finance for a house purchase. One important conclusion is that it may be quite difficult to obtain a mortgage. A second conclusion is that, even when it is possible to obtain a mortgage, there are a variety of financial strains and restrictions involved. In Section (2.3), we pull together those features of the current U.S. market for residential housing and mortgage finance that result in the overall constraints on potential homeowners’ housing consumption. We focus on those constraints that we feel would be relaxed by the introduction of housing market partnerships.

2.1. Tenure Choice

A key feature of the U.S. housing market is that housing consumption is tied to either owning 100% or 0% of the underlying property. The nature of the choice between the rental and the ownership portions of the housing market has been much studied. A large part of the decision depends on the life stage and stability of the household (Plaut [1987] and Dielman and Everaers [1994]). Renting is likely
to be the preferred option for households that are new to an area and wish to carry out an extended search for the locality that offers the mix of services and amenities that best suits their needs. Renting offers a low cost option during this search period. In addition, some individuals do not anticipate staying in an area long enough to amortize the fixed costs of purchasing a house. Again, renting is the best option in this case. For a broader discussion of the motives for renting, see Fannie Mae [1994].

Unfortunately the rental market does not provide a perfect substitute for ownership. One reason why renting and owning are not perfect substitutes is that there are tax advantages of owning (Weiss [1978]). Other important issues are the lack of control over tenure and the unpredictability of future rent payments in typical rental contracts. Standard rental agreements are of a relatively short term, and therefore leave uncertainty concerning security of tenure, and uncertainty concerning the change in rent if an extension is offered. The fact that these fundamental control rights rest with the landlord is an important issue for many households, and has an impact on public policy. Ex post problems when landlords do not choose to offer contract extensions to existing tenants tend to lead to governmental actions restricting landlords' freedom of action, which in turn give rise to a whole series of other economic and legal problems.

There are also powerful moral hazard problems in the rental market, so renters may end up having to pay more because they do not have particularly strong incentives to keep the property in good condition. It is difficult to write and enforce rental contracts that ensure a high standard of maintenance by a tenant with no ownership interest in the underlying property (Kanemoto [1990]). This moral hazard problem leads to many rental units being either of poor quality, or having an implicit premium in the rental payment based on the rational anticipation that the tenant will treat the property poorly. It may also be that the moral hazard issues also give rise to adverse selection, whereby those who end up occupying rental property are those who have the least concern for the quality of the property in which they live (Miceli [1989]). Adverse selection ends up getting reinforced by the fact that it is often the young, the poor, and the transient residents of an area that end up renting. One response by landlords has been to rent out "low maintenance" standardized units, in which there is less concern with tenant upkeep.

Given the lower commitment to the local area of many renters, and the various problems of property neglect, there is a widespread view that owners make better neighbors than do renters. Evidence for this can be found in the survey conducted by Fannie Mae [1994], and in the article by Wang, Grissom, Webb, and Spellman [1991]. In fact, there is a powerful perception that having renters as neighbors lowers property values and lowers the quality of local public goods. This means that communities have an incentive to erect various barriers that make it more costly to rent out houses in the
local community. One method for encouraging such a separation is that local neighborhood associations can write rules that make it very costly in terms of monitoring to rent out property. As a result, there are many types of housing for which there is in effect no possibility of renting the property on reasonable terms. Therefore an individual's most preferred location may not offer any rental properties, so that the benefits of certain implicit and explicit services are contingent upon home ownership, including schools, medical services, community spirit, police protection, etc. The empirical work of Elder and Zumpano [1991] points to this asymmetry whereby location and housing quality choices are more restricted for tenants than they are for homeowners. It is also well known that homeownership rates vary widely across different locations (Eilbott and Binkowski [1985] analyze differential homeownership rates across SMSAs). Given that housing location choices are very closely connected to employment choices (Iwarere and Williams [1991]), difficulties in finding suitable rental housing will impose additional costs in terms of job availability.

The connection between ownership and improved quality of local public goods in turn serves to reinforce the public sector preference for ownership over renting, as reflected in the tax deductibility of mortgage interest payments, and the FHA/VA programs designed to subsidize first time home buyers. Given that the only alternative is to rent, it is therefore not surprising that home ownership is the preferred option for a vast majority of the population (Fannie Mae [1994]).

2.2. Obtaining a Mortgage

For the many households that choose the option of ownership, there is the issue of how to obtain the funds necessary to purchase their home. It is the role of the mortgage market to determine whether and how much financing households will receive. In underwriting a mortgage application, the lending institution is trying to assess the risk of the applicant going delinquent as well as the cost if there is a default on the mortgage. The underwriting criteria are designed to control both the risk and extent of losses arising from the mortgage. The underwriting process for mortgages is now highly standardized, especially in the market for those who have top rate credit histories: the so-called A credit market. This is the most highly standardized part of the market, and is open to those who have A credit records from the credit bureaus. For a more detailed description of how A credit is defined, see Caplin, Freeman, and Tracy [1994]. For the moment we provide a brief summary of key elements of the market for these high quality A mortgages, with the remaining B-D mortgages reintroduced in Section 8.
After selecting a lending institution specializing in A mortgages (such as a commercial bank) and a specific mortgage product (i.e. fixed vs. variable rate, 30 year vs. 15 year, etc.), the applicant pays the lender a fee in order to begin the underwriting process. There are three basic "screens" that the applicant must pass before obtaining finance: a credit screen, a payment to income screen, and a loan-to-value (LTV) screen. In the credit screen, the borrower and co-borrower’s credit records are pulled and reviewed according to several criteria. Applicants with sufficiently poor credit histories fail the credit screen and are rejected from the A market: at this point they have the option either to apply to another lender specializing in A credit, or to apply instead to a lender in the B-D credit markets.

Applicants who pass the A credit screen are then moved to the payment-to-income screen. This is comprised of two ratios which are called the "front-end" and the "back-end" ratios. The front-end ratio is calculated as the borrowers’ monthly principal, interest, taxes and insurance (PITI) divided by the monthly pretax income. The back-end ratio is the PITI plus any recurring monthly obligations (debt or lease payments) divided again by the monthly pretax income. Applications with front and/or back-end ratios above the underwriting guidelines (i.e. 28/36) are subject to rejection.

Applications passing both the credit and debt/income tests are put through one final screen. The lender will have the property appraised in order to obtain an independent estimate of its value. The lender uses the appraisal to calculate the loan to value ratio, LTV. A loan with an LTV below 80% is routinely accepted. Applications with LTV’s above 80% will be asked to either reduce the LTV to 80% through a larger downpayment, or to apply for private mortgage insurance (PMI). PMI companies typically charge a 25 basis point rate premium and one upfront point. In return, the PMI company typically insures the lending institution on the first 25% of the loan amount.

Applications that pass all three screens are given contingent approval. Prior to closing, verification must be obtained on the applicant’s employment and available funds for the downpayment. The applicant is free to cancel the application process at any time up until closing. The application fee and closing costs (excluding any points paid to the lending institution and PMI company) typically amount to around 1.5% of the value of the mortgage, depending on the level of state taxes.

Applications that pass all three credit screens within the Agency guidelines, fall below the upper size limit of $200,000 that defines the Jumbo mortgage, and satisfy remaining Agency guidelines, are known as "conforming" mortgages. Such conforming mortgages are generally not held by the mortgage granting institution, but rather get sold on to the secondary mortgage market. The mortgage is usually sold by the issuer to one of the Agencies: Freddie Mac, FNMA or GNMA. These Agencies bundle the mortgages into pools, add a credit enhancement, and sell off the shares in the underlying pools to various
institutional investors. In addition to the Agencies, various large private financial institutions such as Citicorp through its CittieMae subsidiary, have entered the business of issuing securitized mortgage pools. With this, there are well developed secondary markets in various non-conforming mortgages, such as the Jumbo mortgage. The development of a large secondary mortgage market has greatly increased the pool of funds available for financing mortgages, and has also had an important impact on increasing the degree of standardization in the mortgage market.

2.3. Some Constraints on Potential Homeowners

There are several important constraints on potential homeowners that are present given the current structure of the U.S housing market. We focus in on two constraints that we believe are particularly important:

(a) The Constraint on Housing Consumption, and
(b) The Connection between Housing Consumption and the Asset Portfolio.

The first constraint arises because of the way in which the maximum loan size is determined in the existing mortgage market. The second constraint arises from the rigid connection between house consumption and house ownership in the current housing market. Between them, these two constraints not only adversely impact the choices made by households that enter the housing market, they also push a number of households altogether out of the ownership sector of the market. Our proposal is aimed in large part at relaxing these two constraints. For the moment, we continue to limit attention to households that can obtain credit in the \textit{A} mortgage market.

2.3(a). The Constraint on Housing Consumption

As outlined above, the existing U.S. mortgage market sets a maximum loan amount that depends on three primary factors: the household’s liquid wealth available for downpayment; their assessed income in relation to the mortgage, tax and insurance expenses; and the appraised value of the house that they wish to purchase. In the majority of cases, the price that the household pays for the house is very close to its appraised value. In such cases, the maximum house value that the current market makes available depends only on liquid wealth and assessed income in relation to tax and interest expenses. Therefore, these constraints may have a large impact on the household’s level of housing consumption, and may even act to keep a household in the rental sector of the market.
To illustrate the nature of the constraint on housing consumption implied by existing institutions, note that a household with low liquid wealth has difficulty in borrowing a large amount, even if they have a reasonable level of income and good prospects. For other households, it is the level of income that will constrain their ability to purchase a large enough home. The PITI screen may also constrain households who are still paying off outside debt, such as those with large debts to educational institutions. The problems are compounded for younger households that do not have sufficient credit histories to qualify in the A market (including "no hits", who have no credit history at all).

The study by Zorn [1989] presents estimates of the importance of these constraints. One crude indication that these constraints may be important is that a great many households take out mortgages in which they are right up against one of the constraints. A large proportion who take out loans without PMI have LTV ratios at the maximum of 80\% (see Figure 4 in Caplin, Freeman and Tracy [1994]). For those with PMI, a large proportion are at the maximum LTV ratios of 90\% or 95\%. Finally, the 28\% front end PITI ratio is binding for a great many households.

2.3(b). Housing Consumption and the Asset Portfolio

One other aspect of the current market structure is that the all or nothing nature of ownership forces owners to tie their housing consumption decision with their asset accumulation and asset portfolio decisions. Households may wish to live in large houses, without wanting to risk a large proportion of their wealth on the fate of their property and the surrounding housing market. The presence of this constraint tying together the consumption and portfolio aspects of housing has long been recognized as an important feature of the housing market (Henderson and Ioannides [1983] and [1987], Hendershott and Yunhi [1992], and Brueckner [1994]). The practical impact of the constraint is that it forces homeowners to take on a very large exposure to the risk involved in the value of their own home. In 1991, data from the Survey of Income and Program Participation indicates that for households owning assets, housing equity accounts for 64\% of total assets (Eller [1994], Table C).

The aggregate data do not tell the whole story. It is far more severe than this. At the time of application housing wealth will typically account for over 100\% of the household's net wealth, especially for the first time home owner. In fact, there would be little reason for a lender to be concerned in making a loan to a wealthy household, since all assets are attached to the mortgage. The care taken in monitoring mortgage applications is needed in large part because they do form such a massive proportion of household wealth. It is common for households to convert all of their non-housing wealth into the
downpayment, leading to overwhelming exposure to housing risk (Venti data []). The fact that households go delinquent as often as they do is in itself prima facie evidence of the importance of housing in total wealth.

The risks inherent in such an unbalanced portfolio are made even more significant by the volatility of the housing market. There is a boom-bust pattern in house prices, and there are many episodes in which prices have collapsed by 20% or more in a relatively short period of time. A further problem is that the shocks that cause house prices to collapse may also cause the regional economy to suffer, so that the value of human capital and the value of housing may fall simultaneously. This damage is further compounded by the fact that falling house prices impede residential mobility (Chan [1994], Genesove and Mayer [1993], and Stein [1993]). The end result is that an oil worker in Texas in the early 1980's would have found their house value and their income collapse at the same time, and at the same time would have found it very difficult to move to a new area because of the fall in property value. Lack of asset diversification can cause tremendous hardship.

From the economy-wide viewpoint, risk sharing would be greatly enhanced if households did not have to own the whole of the housing asset that they occupy, but could instead own a smaller proportion of the home, say 50%. The second half of the home asset is perfectly correlated with the first half, and is therefore the worst possible form of investment from the point of view of diversification. Simple portfolio theory argues that there is scope for a Pareto improvement if the owner occupant sells a proportion of the asset value of their home to a large, well diversified financial institution. At present, there is no institutional mechanism that allows such transactions to occur. The fundamental motivation for the current proposal is to point the way to filling this institutional void, and provide households with a mechanism for selling off part of their home on acceptable terms. The rest of the paper details our proposal for allowing this improved asset allocation to be realized.

3. Simple Housing Partnership Contracts

In this section, we first outline the simplest version of a housing partnership contract, and then illustrate the important new options that the contract makes available to potential homeowners.
3.1. The Basic Contract

The essential idea of a housing market partnership is to introduce a new source of funds to potential home owners. In a partnership contract, the house would be co-owned by the occupying household and the partner financial institution, both of whom would be present at the closing and who would co-sign the title document. The partnership contract would give the household full rights to occupancy in the house, and would also specify the household’s role as managing partner in the partnership. As managing partner, they would be responsible for maintaining the home in good condition. They would also pay all running expenses such as local taxes for the period of their occupancy. The managing partner would also have the primary rights in determining any additions to the property, with proper notification of the limited partner, and would be able to obtain appropriate adjustments in the terms of the partnership for the increase in value, as specified in the initial contract. Finally, the managing partner would have the right to determine when the house was to be sold, and would also be in a position to accept an offer for the house at any point that they wished, provided they followed the contractual steps which allow the limited partner to exercise a right of first refusal (to prevent "fire sales").

As limited partner, the financial institution would then take a background role. After supplying the initial funds, its role would be to monitor the managing partner’s compliance with the contract terms. The most important time for checking compliance would be during the sales process of the house, or at times of major adjustment of the property, which are carried out at the discretion of the managing partner. When the sales process has been completed, the managing partner will split the price net of the contractually specified closing costs in accordance with the percentage ownership interests specified in the partnership contract.

The simplest form of partnership contract would involve the homeowner offering a certain proportion of equity to the potential limited partner, say a 50% share of the ownership. The limited partner would then carry out an investigation before making an offer on this 50% share. One important issue that we address in Sections 5 and 6 below is the process by which potential limited partners determine the price they are willing to pay for their portion of the final sales price of the house. The partnership will be called a "partnership at par" if they offer to pay a pro-rata proportion of the initial appraisal value of the property, a "partnership at discount" if they offer to pay less, and a "partnership at premium" if they offer to pay more. The issue of whether partnerships will normally be set at par, at
a discount, or at a premium, and if so how much, is a subtle quantitative question that we address in somewhat more detail in Section 6 below. For now, we consider only partnership agreements at par.

3.2. New Options for Households

The basic impact of the partnership agreement is to add some new options for current and intending homeowners looking at how to finance a home purchase. By selling off part of their equity in the home, the household both reduces the amount it has to borrow to take occupancy, and reduces its exposure to house price fluctuations. Households may use these new options in three distinct ways:

(a) Cash Out Diversification,
(b) Trade Up, and
(c) Transition from Rental to Ownership.

In a cash out diversification, the current or prospective owner does not alter their choice of which house to live in, but chooses merely to sell part of their equity in the home, both to diversify their asset portfolio and to increase cash on hand. To trade up, an existing home owner uses the contract to move to a larger house without changing their monthly housing-related expenses. Note that an existing owner can choose an intermediate route in which they use the contract to achieve some mix of trading up and cash out diversification. Finally, existing renters may take advantage of the contract to move into the ownership section of the market.

3.2(a). Cash Out Diversification

The technique for an existing owner to carry out a cash out diversification is the most transparent. An existing owner can cut in half the risk and the mortgage installment payments if they can find a 50% equity partner at par. This would be an attractive option for the group known as the "house poor", those who face spending constraints because of their large mortgage payments. These households would be likely to divert the savings largely into non-housing consumption. A second group of households that would be likely to take advantage of this option are those who have a large exposure to house price risk, such as those who live in "company towns", because their house value and the value of their human capital are highly correlated. Further analysis of the potential demand for partnership agreements is to be found in Section 8 below.
3.2(b). Trade Up

It is clear that the presence of a limited partner who supplies additional funds will enable potential homeowners to afford larger homes than is possible in the current market. But there are several intricacies involved in working out the likely magnitude of these trade up possibilities. In order to illustrate this potential role of the partnership contracts, we must also consider the broader nature of the housing finance market in the presence of partnership contracts. The key point is that many home buyers will want to use a combination of debt and equity to finance their home. For example, an individual buying a $100,000 house may want to raise $50,000 by selling a 50% stake to their limited partner at par, and may also wish to get a thirty year fixed rate mortgage to cover an additional $40,000. This raises the issue of the terms that lenders will demand for making loans to managing partners.

While there are some potentially intricate interactions, we go through a contract in Section 4 that will leave lenders largely unconcerned with whether they are lending against a traditional fully owned home, or against a managing partner with the same net equity stake in a home owned in a partnership agreement. Therefore, we can get a good first approximation to the nature of the market by assuming that mortgage lenders operate as in Section 2 above, with one minor difference concerning the treatment of maintenance costs.

We believe that the PITI tests outlined in Section (2.2) would have to be made slightly more comprehensive in light of the partnership agreements. As currently constituted, the ratios do not take account of maintenance expenditures. The only expenses that get added in to the principal and interest expenses on the mortgage are regular tax expenses and interest payments on other outstanding debts. But with partnership contracts, households retain responsibility for 100% of maintenance expenses, while their principal and interest payments would involve ownership of only 50% of the equity in their home. This means that households paying the same level of principal and interest as managing partners would be responsible for a higher level of maintenance expense than they would as sole owners. This would raise concern that they may not be able to maintain the property in accordance with the terms of their partnership agreement unless there is explicit allowance for the increased maintenance expense in the credit-granting process. It would serve the interests of both lenders and limited partners if lenders adjusted their lending ratios accordingly, and from now on we operate on the assumption that this adjustment would indeed take place.

A simple numerical example will help to illuminate the trade up possibilities for households in the presence of partnership contracts. For purposes of this illustration, we consider an A credit household,
who would in the current market be seeking a thirty year, fixed rate, conventional, conforming mortgage without PMI. We also make the simplifying assumption that the house price is identical to its appraised value. To compute the amount that the household has available for its downpayment, we then subtract closing costs of 1.5% of the appraised value of the house. This also means that the household is assumed to pay no upfront points. With these assumptions we are able compute the size restriction implied by the maximum LTV constraint of 80%. To compute the size restriction implied by the PITI ratios, we make the simplifying assumption that the annual interest rate is 9.49% on the mortgage, so that annual principal and interest payments can be rounded out to 10.0% of the loan amount. We also assume an annual local property tax of 1% of the appraised value of the house, and annual insurance costs of 0.2% of appraised value, and an absence of other forms of debt, so that the only relevant PITI test is the 28% maximum ratio of interest, taxes, and insurance to “adjusted gross income” (the relevant Agency-defined income concept for calculation of these PITI ratios).

To be specific, consider a household with gross adjusted income of $80,000 and funds available at closing of $60,000. In the current mortgage market, the household can afford a house costing almost exactly $250,000. To see why this is so, note that closing costs of 1.5% on this house amount to $3,750, leaving the household with funds of $56,250 for the downpayment. This means that the remaining $193,750 must be borrowed. The principal and interest on such a loan amount to $19,375 annually, while the taxes and insurance on the house amount to 1.2% of its value, or $3,000 each year. Altogether, principal, interest, taxes, and insurance amount to $22,375 per annum, which is roughly 28% of the household annual income of $80,000. Note that this household is tightly constrained by the PITI test. The LTV test is also passed with little room to spare, since the loan of $193,750 amounts to more than 77% of the house value of $250,000.

We now consider the changes that would take place if partnership contracts became available. To calculate the maximum house value that a household could afford with a partner, we retain all of the assumptions used in the example above and make several additional assumptions concerning the nature of the partnership contract. We assume that the household takes out a 30 year fixed rate mortgage with precisely the same parameters as above, and at the same time finds a limited partner to take a 50% partnership at par. The only adjustment that we make to the terms of the mortgage is to assume that the lender adjusts the PITI ratios by taking account of maintenance expenses stated as 2% of the additional appraised value that the household can afford with a partnership contract. We also assume that the household must pay for all closing costs out of their own pocket, without recompense from the limited partner. Finally, we make the very conservative assumption that the government offers no financial
subsidy or incentive for partnerships, which by implication would constitute a massive savings for the government in terms of reducing the expense of tax deductible interest payments. More generous and realistic scenarios are discussed more fully in Section 9.

With these assumptions, the household considered above with gross adjusted income of $80,000 and funds available at closing of $60,000 could afford a house worth $400,000, representing a 60% trade up on their current maximum house size. To see how they can afford this house, note that the 50% partner at par brings $200,000 to the table, while the closing costs of $6,000 leave the household with a downpayment of $54,000, so that $146,000 is left to be raised through the mortgage. The annual carrying costs on this mortgage are $14,600. The taxes and insurance amount to $4,800 annually, which is 1.2% of $400,000. The additional maintenance expenses are $3,000, which is 2% of the additional affordable house value of $150,000. The total amount of annual principal, interest, taxes, insurance and maintenance is $22,400, which again amounts to 28% of gross adjusted income. Again, it is the PITI constraint, suitably adjusted for the incremental maintenance expenditures, that is binding on this household. The LTV constraint is passed easily in this case, since the loan of $146,000 amounts to 73% of the limited partner’s $200,000 equity.

The example indicates that for a household that is constrained by the PITI ratios in the current market for mortgage finance, the introduction of partnership contracts would result in a roughly 60% increase in the maximum affordable house price. It is straightforward to generalize beyond this example to consider situations with a wide variety of different settings for interest rates, incomes, wealth levels, and other parameters. They all share the common feature that there are large possibilities for trading up with the introduction of partnership contracts.

3.2(c). Transition to Ownership

One reason that the partnership contract will induce additional ownership is because it removes the linkage between housing consumption and the asset portfolio outlined in Section 2.3(b) above. In as much as the high levels of asset risk lead households to be reluctant to own their own home, the ability to diversify using a partnership contract will expand the number of households preferring to own rather than rent. Another reason that the partnership contract may increase the number of first time homebuyers is through its effect in increasing the affordability of owning a home. By lowering the monthly mortgage payments, the partnerships may attract some young households who currently choose to rent simply because it is cheaper than becoming an owner occupier. This group would currently be made excessively
"cash poor" by ownership, but may choose to become owners if the payments were reduced, as in the partnership format.

In addition to these forces, the same broad features that illustrate the trade up possibilities for existing owners also explain how the partnerships may induce some existing renters to move into the ownership section of the market, especially those who are currently downpayment constrained. The empirical work of Linneman and Wachter [1989] suggests the importance of the downpayment constraint in restricting homeownership. By increasing the value of the homes that existing renters could afford in the ownership section of the market, the new contracts may cause renters to look differently at the ownership section of the market. One issue is that in computing the trade up possibilities for this group, it is important to bear in mind that many of them will need to take out PMI in order to get a loan at an LTV above 80%. PMI companies typically charge 1% of the appraised value up front, and a 0.25% increment in the annual interest rate.

The above discussion shows the important new opportunities that the partnership contract makes available to households. We return to a more detailed analysis of potential household demand for partnership agreements in Section 8 below. In the next three sections we go into more detail on the issues affecting the potential supply of limited partners. The first major issue is how the partnership contracts can be written to overcome the various moral hazard problems that may arise, to which we now turn.

4. Contract Contingencies

The discussion up to this point has been restricted to a simple form of partnership contract. Our purpose in doing this was to illustrate its basic features before introducing any complexities. In moving from full ownership to co-ownership, several interesting incentive issues arise. In this section, we will discuss the incentive issues and give more detailed proposals on how the partnership contract can be designed to address the concerns raised by these incentive issues. We are left with a contract that operates in principal just like the simple partnership contract of Section 3. The only real issues left are the presence of some additional transactions costs associated with the new contract, and the residual incentive issues that may impact the pricing of limited partnerships.

To organize the discussion of contract clauses, we go through the issues in the following order:

(4.1) Entering Into the Agreement,
(4.2) Normal Occupation,
(4.3) Renegotiation,
(4.4) Sale,
(4.5) Breach.

In (4.1), we introduce the clauses associated with the original signing of the partnership agreement, such as formalizing the nature of the appraisal process for the house in question. Since we feel that many of the applications will be made at the moment of a house purchase, we treat the date of entry into the partnership agreement as coinciding with a house purchase. In (4.2), we introduce clauses that specify the nature of the rights and obligations of the managing and limited partners during the period of occupation of the property, including clauses relating to house maintenance, as well as additions to and subtractions from the property. In (4.3), we specify clauses concerning renegotiation of the contract during the period of normal occupation. In (4.4) we introduce clauses relating to the eventual sale of the property. In (4.5), we cover the available remedies in breach.

After introducing the contract, section (4.6) provides a broad overview of the operation of the contract so that we can explore the costs of the various contract clauses. One aspect of this is to compare the proposed clauses with existing contract clauses in the property market and elsewhere, to show that there is little that is truly novel about the proposed contract.

4.1. Entering the Agreement.

The two major issues to cover at the point of entering into the partnership agreement are:

(a) Fraud Prevention, and

(b) Property Appraisal.

The procedures that we outline are not substantially different than the current procedures.

4.1(a). Fraud Prevention

With regard to fraud, there is a basic set of information that the potential managing partner must supply to the limited partner upon application. It is criminally fraudulent to supply incorrect information. The required information would include the applicant’s credit history, information on any past performance as a managing partner, and a list of past addresses and contacts. The application must also include legal releases for various items of additional data to be gathered by the potential limited partners.
4.1(b). Appraisal

The property must be appraised by the managing partner, and there may also be a formalized process for appealing if there is substantial difference in the appraisal between the managing and the limited partner. In the typical case in which a house purchase is the event that triggers the application for the partnership, the information on the purchase price of the house must be supplied in full detail. This is in part because of its probable influence on appraised value. Another reason it is important that the information on purchase price be disclosed in a full and complete fashion is to handle such issues as builders’ concessions on new home sales.

Builders’ concessions often arise when builders have an inventory of homes that are financed with a secured line of credit. As an example, consider a builder who has ten homes for sale that are each financed with $400,000 credit lines ($4 million in total). If the market price for these homes falls to $350,000, then this builder is placed in a difficult situation. If the builder sells one of the ten houses for $350,000, the lender may issue curtailments on the remaining nine houses, which is a demand for $450,000 in cash collateral to protect the lender’s secured position. To avoid this, the builder may try to negotiate with the buyer to accept a price of $400,000 and various concessions (furniture, carpeting, decks, etc.) which are worth at least $50,000 to the buyer, but will probably cost the builder substantially less.

Fortunately, builders’ concessions are reported on the HUD-1 form. Since these forms must be supplied before closing on the partnership contract, there is little reason for them to cause inappropriate appraisals. For reasons that are underscored in the next section, the appraisal will have to meet a high quality standard, similar to the condition records currently kept by associations and landlords.

There are two additional issues concerning the appraisal process that must be contractually specified. First, the contract will have to specify some relatively short time period from appraisal to signing. Second, there should be a fee involved in making the application that will at least cover the appraisal costs, to discourage frivolous use of the application by a potential managing partner to get a sense of the value of their house.
4.2. Normal Occupation as Managing Partner (non-breach).

The major clauses to discuss for the period of normal occupation relate to the topics of ensuring adequate maintenance, and encouraging improvements:

(a) As-Is Clause,
(b) Owner Occupation,
(c) No Outside Sales of Equity,
(d) Cross Breach (Default), and
(e) Alterations to the Property.

The major impact of the first four of these clauses is to ensure that the managing partner has the incentive to maintain the property in good condition. The clause on alterations to the property is designed to allow the managing partner to change and to improve the property as they see fit, within limits.

4.2(a). As-Is Clause

The limited partnership contract should contain an as-is clause which states that the managing partner is obliged to return the property at the time of sale in a condition that is essentially similar to or better than its condition when purchased. This is a standard clause in leasing contracts and establishes the legal precedent of who is responsible for the maintenance of the property. In order to provide appropriate incentives, the contract will specify a set of monetary penalty clauses (junior in priority to the mortgage on the house), becoming an obligation (a lien, possibly a mechanic’s lien) at the point of discovery (or at a point of failure to comply within a reasonable period after the problem is discovered). The condition of the property will be checked upon entering the sales process, and upon any addition or subtraction application. The clause is triggered automatically upon discovery, and has legal status as a priority claim. The amount of the lien would be set by the court at the estimated repair cost of the maintenance plus a fixed fee.

There is some range of possible degrees of tightness in the as-is clause. The minimum is up to the level of the local building code. The maximum would be a strict enforcement that everything in or around the property must be returned to the original condition, or it is deducted first from the proceeds of the sale of the home. This is similar to the clauses that typically exist in commercial real estate and auto leases, and the records for substantiating the clause would require appraisals to be more detailed, similar to the records that associations currently keep on common property. We propose that failure to
maintain to the local building code constitutes a breach of the partnership contract with the remedy being the right for the limited partner to file for partition (liquidation). If the managing partner fails to maintain the property to the higher standard required by strict enforcement of the full appraisal standard, the penalty would be that the dollar amount of repairs would accumulate as claims with priority out of any sales proceeds. This makes it important to have agreement on the nature of the appraisals involved in establishing damage to the property. There is a need to ensure a non-corrupt appraisal process and full data on the performance of different limited partners on this count, which may call for those who wish to be limited partners divulging information on their past performance along a variety of different dimensions. In parallel fashion, there will be records kept of potential managing partners’ performance in past as-is clauses on the application form for new partnerships.

Note that the need for the as-is clause places greater emphasis on the accuracy of the original appraisal. This is one of the reasons for insisting on the full appraisal standard being set at a level similar to that established by associations for their maps and documents on common property.

4.2(b). Owner Occupation

Another incentive for proper maintenance is provided by the stipulation that the managing partner must maintain residence in the property. An important compensation to the managing partner is the right to consume the housing services. The value of this consumption depends in part on the property being maintained. Allowing the managing partner to rent the property would introduce an additional agency problem between the managing partner and the renters. We recommend that the partnership contract be restricted to owner occupied houses and not be made available to investor properties. Any future intention to rent the property would require written permission from the limited partner, would only be allowed in hardship cases, and the limited partner would also be entitled to a pro-rata share of the rent, which the limited partner may of course choose to waive if it is in their best interests. Further, the contract should stipulate that failure by the managing partner to occupy the house would be a trigger for partition under an event of breach of the partnership contract.
4.2(c). No Outside Sales of Equity

The limited partner will wish to limit the freedom of the managing partner to sell off additional equity in their home to outside investors, since any such sales would reduce the managing partner’s stake in the property and may serve to weaken the incentives in the original contract. The simplest way to get around this is to forbid sale of equity by the managing partner to any third party once the original contract has been signed. This would be enforced by having the limited partner retain or have dXi < y the certificates of ownership on a percentage (i.e 20%) of the ownership. This still leaves room for changes in equity in the form of renegotiations, as covered in (4.3) below. In addition we propose that the partnership contract not restrict the managing partner’s financial structure on their portion of the equity, apart from the no outside equity clause, provided this structure does not itself involve fraudulent behavior, such as overcollateralization. We see no need for restrictions barring the managing partner from using home equity to cash out of their house appreciation or any principal paydown (see Section 5 for further discussion).

4.2(d). Cross Breach

Managing partners are obliged to keep current on their property taxes, insurance, and any other escrows, since the limited partner would not like to be superseded in bankruptcy or liquidation by other claims. We propose that records of all these transactions be maintained by the institutions that service the limited partnerships. In addition, any default on an outside loan that is secured by the managing partner’s equity in their home, such as their mortgage, would place the managing partner in breach of the partnership contract. In addition, the managing partner is obliged to inform the limited partner of the default itself and of any impending foreclosure events such as auctions, third party sales, rentals, leases etc., that are triggered by the default.

The reason for this is that such defaults occur at points of financial stringency, when there is a tremendous risk that the managing partner will fail in their obligation to keep the property in adequate condition. If there is a default on the mortgage, the lender would likely let the limited partner dispose of the property, since the limited partner has the incentive to maximize the value of the sale. This also works well for managing partners, who can avail themselves of the limited partner’s assistance in liquidation knowing that their incentives are closely connected. The limited partner may also choose to
advance money to the managing partner to get quicker access to the property and to help reduce the moral hazard problem caused by delinquent occupants.

4.2(e). Alterations to the Property

Since the managing partner receives only a pro-rata share of any increase in the house value, the basic partnership contract outlined earlier would provide a disincentive for significant home improvements to be undertaken. This contrasts with the standard mortgage contract where the homeowner receives 100 percent of any increase in value resulting from improvements. We propose dealing with this issue with the following contract contingencies.

For small improvements, the most economical approach is to force the managing partner to expense the costs of the improvements. The only benefit to the managing partner, then, is the increase in housing services consumed until the sale of the property, and the proportionate amount of the final sales price. Note that it may be possible to improve on this if the appraisal standard is good enough to provide a reliable appraised value on smaller improvements that are greater than the cost of the appraisal.

For more significant improvements, the partnership contract needs to provide for a recalibration of the equity shares of each partner. This could be carried out in one of two ways. First, a schedule could be developed for a list of possible types of improvements, which provides for an agreed upon increase in value (per dollar cost). Prior to any work being carried out, the limited partner would receive a detailed listing of all improvement work to be done and the estimated cost. The cost estimates would be verified ex post with copies of all payments. Another possible method for verifying home improvements is that the limited partner can eventually reconcile the submitted costs against the carrying value of a home that is filed with the IRS on Schedule 1099B that records capital gains. The limited partner would have access to all such filings, and to engage in fraudulent overbilling of home improvements would also be a criminal tax offense.

Using the schedule and the expenditure data, the managing partner’s equity position in the house would be adjusted upward. The alternative procedure would be for the managing partner to negotiate directly with the limited partner over the appropriate adjustment in equity position prior to an improvement being undertaken. One method of carrying out this negotiation would be to appraise the property before and after the improvement is undertaken, adjusting upward the managing partner’s share position accordingly. This method will be less attractive for projects that require a significant time to completion and in property markets that are experiencing rapid price declines.
Over time as experience in designing and executing partnership contracts accumulates, we expect that standards would develop over which type of improvements can be adjusted using a schedule and which would require individual negotiations. As in the Property and Casualty insurance industry, it is likely that smaller adjustments to the property will become standardized, while the larger adjustments will require negotiation.

As in the auto insurance market, limited partners would have to guard against fraud involving the adjustment of equity positions. One problem would be kickbacks from contractors to the managing partner. This is similar to the problem of kickbacks among auto claims adjusters and mechanics, so we would expect to see similar solutions adopted by the limited partners such as maintaining independent appraisers and lists of approved contractors. To ensure that a minimum quality of work is performed, the partnership contract should require building permits to be obtained for all work and certificates of occupancy to be issued following the completion of the work. The extent to which these requirements ensure a minimum quality of construction depends on local building codes and the extent of their enforcement.

4.3. Renegotiations

We now discuss the mechanisms that would be put in place for the managing partner to buy back or sell more of their ownership interest to the limited partner before the sale of the property. This can be accomplished only through a negotiated deal with the limited partner. The managing partner would pay for the appraisal and would also pay a fee that was set out in the original housing partnership contract. The managing partner would appraise the residence and submit a bid to the limited partner (in the case in which the managing seeks to buy back equity from the limited partner). The limited partner would have thirty days to independently appraise and respond with a counteroffer. The number of managing partner counteroffers would be limited under the original partnership contract. However, with the advent of an active secondary market for trading housing partnership contracts (see Section 6), the need for the managing partner to buy/sell an interest in their own residence for portfolio reasons should substantially diminish.
4.4. The Sales Process

Another concern that is introduced by the partnership contract has to do with preventing the managing partner from selling the house at substantially below its market price. This possibility could arise either as a result of the need for a quick sale by the managing partner, or as a result of fraud (where the sale is to an affiliated party). In either case, this action would impose costs on the limited partner. Several clauses are aimed at preventing this:

(a) Adequate and Timely Information,
(b) Limited Partner Appraisal and Right of First Refusal, and
(c) No Third Party Affiliated Transactions.

4.4(a). Adequate and Timely Information

The managing partner is obliged to provide complete and timely information on the sales process to the limited partner. In order to sell with the help of a broker, the managing partner lists the property and informs the real estate brokers handling the listing that it is a co-owned property. Third party buyers inspect the property and let us suppose one buyer makes a bid. The bid is received by the managing partner who accepts no downpayment at this time. The managing partner forwards the bid to the limited partner who has a short, contractually set period such as ten days in which to appraise the property and respond to the bid. The managing partner pays a fee for the appraisal, which is pro-rata refunded at the closing. In fact, there must be a disclosure clause in the sales process: even if there are multiple bidders, all bid information must go to the managing partner, the buyer, and the limited partner. Fraud is unlikely since it is in the potential buyer’s interest to forward their offers to the limited partner, and any withholding of information would result in a loss of both or either of the real estate agents’ licenses.

If the managing partner receives an offer that they would like to accept, they must inform the limited partner of their intent to accept the offer. By submitting an intent to accept form, the managing partner starts a clock, and gives the limited partner a short fixed period of roughly 10 business days to either accept the offer, or to respond according to their right of first refusal, as specified in (b) immediately below. In addition to the intent to accept form, the managing partner submits a fixed fee to the limited partner to cover the costs of an appraisal, which is reimbursed in proportion to the equity share if the sale is completed.
4.4(b). Limited Partner Appraisal and Right of First Refusal

When the limited partner receives the intent to accept notification and the appraisal fee from the managing partner, the limited partner has a contractually fixed period of time in which to respond. The only two possible responses are either to agree with the managing partner and concur with the intent to accept form, or to exercise the limited partner’s right of first refusal, and make a bid for the property from the managing partner for a fixed premium above the proposed sale price. By requiring a premium to be paid this clause should not create added uncertainty for the prospective buyer if a fair market price has been made.

Upon receiving any bid from the limited partner, the managing partner has some fixed period to search again: say 30 days. At this point, the managing partner can conduct a renewed search for additional offers. The managing partner can then submit a new intent to accept form, and reinitiate the process. Note that there is a potential difference between the third party buyer and the limited partner in that the limited partner is always a "qualified" (credit worthy) borrower, and the third party buyer may not be, and therefore the sale may not close. But this problem exists among multiple buyers today. And one way the real estate brokers may respond to this is by more pre-qualifying of buyers by divulging additional information to the managing partner and the limited partner. This process could be expedited and the cost reduced by having the managing partner pay for the appraisal at the time of listing instead of waiting for a buyer to bid. The listing real estate broker works for both co-owners. If the limited partner wins the bid, the buyer’s real estate broker gets no commission, but this is the same as would happen today with multiple buyers.

4.4(c). No Third Party Affiliated Transactions

We propose that third party affiliated sales be ruled out, since there are so many potential conflicts of interest between the managing partner and limited partner in the event of a sale that is to a related party. The most obvious cases would involve false sales between spouses that do not involve any change of residence, but rather involve an attempt to reduce the value of the limited partner’s equity. The closing attorney for the limited partner would be responsible for checking adherence with this clause.

In addition to the direct monitoring of the sales process provided for in the above contract clauses, an additional incentive for the managing partner to pay careful consideration to the interests of
the limited partner will arise as the informational structure of the market develops. We expect that there will be methods of monitoring the sales performance of managing partners in past agreements that will impact the terms that are offered to them on any future partnership contracts that they choose to enter into.

The final set of issues in the sales process concern death and estate issues. In the event of the managing partner's death, ownership is part of the estate. Spouses may continue under the existing contract. Descendants must sell the property, or buy the limited partner out. Otherwise the limited partner can force the partition of the property. The servicer must inform the limited partner in the event of death.

4.5. Issues in Breach: Types of Breach

We now discuss what happens under the partnership contract when the managing partner fails to fulfill their obligations under the contract ("Breach"), and what events allow the limited partner to partition the managing partner's equity position because of such breach. The main remedies available to the limited partner in such situations of breach are partition of the property or restructuring of the contract. Note that in all cases of liquidation, the property must be auctioned in accordance with established case law in that state. The major forms of restructuring include:

(a) Allowing rental,
(b) Joint investment in repair,
(c) Facilitating a reverse mortgage,
(d) Providing guarantees to third parties on a home equity loan, and
(e) Arranging for costless liquidation by the managing partner.

The preferred option for the limited partner will depend in large measure on the precise form of the breach of contract, as outlined below.

Fraud in the application is criminal behavior, and is subject to court imposed penalties. Failure to maintain the property may provoke partition in the egregious case of failure to maintain the property up to code within a reasonable time after noticed. Breaking of the owner occupation clause or the ban on outside sales of equity would also be sufficient reason for partition of the asset by the limited partner, using similar auction procedures to those that lenders undertake when there is a foreclosure on a mortgage obligation. If the cross breach clause is triggered, it is important to try to make the right of first refusal survive into bankruptcy, although this is largely at the discretion of the bankruptcy court. Third party
sales would have criminal penalties as would hiding sales information. These are all unlikely to occur and unlikely to be large scale problems and each would surely trigger partition.

The restructuring deals would be most likely to occur when there was some mutually advantageous deal to be made between the managing partner and the limited partner. Suppose for example that the managing partner goes into default on their mortgage. At this point the lender initiates foreclosure proceedings and seeks to get possession of the property. In the existing market structure, these proceedings may be very time consuming, and these are also the time periods in which the most severe damage is done to the property by the occupant, both through neglect, and occasionally in a more destructive manner. In such situations the managing partner and the limited partner may strike a deal for the managing partner to move out earlier and to move into a rental accommodation located or somewhat subsidized by the limited partner and possibly the lender. This would prevent the otherwise significant property damage that currently occurs when mortgage holders default.

4.6. Overview of Contract

Overall, we feel that a partnership contract of the broad form outlined above would reduce the risks for the limited partner without placing significant constraints on the freedom of the managing partner. In addition, many of the clauses are standard and financial institutions are experienced in writing and monitoring performance on such contracts.

The only situations in which the residual moral hazard issues are likely to be significant are situations of breach. These situations are most likely to arise when the managing partner is experiencing significant financial difficulty, causing them to breach the as-is clause or to default on the mortgage obligation and cross-breach the partnership contract. These are precisely the kinds of problems that exist in the current mortgage market, and financial institutions well know how to assess the risks involved. Default risk has been kept low by the underwriting processes, particularly for conforming mortgages (see Quigley and Van Order [1991]).

As to the contractual limitations on the behavior of the managing partner, note that the implicit restrictions are less severe than those that already exist for "fee simple" common property. These limitations are often a serious issue in town houses and condos because almost everything outside the physical building is common ground. In addition, neighborhood associations and local regulation already provide various, and sometimes severe, limitations on the complete freedom of action of the homeowner.
There is no reason to view the additional issues of control and notification in the managing partnership as being of critical importance to potential homeowners.

In fact, there are a set of potential homeowners who may be very happy to have a limited partner join them in the purchase of their home. In the first place, the initial appraisal will be far more serious, and may prevent a potential owner from paying too much for the property. Similarly, the structure that the contract adds to the sales process makes it far less likely that the property will be sold at an inappropriately low price to a buyer who takes advantage of the seller’s lack of expertise in the sales process.

5. Primary Market for Housing Partnership Contracts

With the details of the contract specified, we turn to our proposals concerning the process that results in the establishment of the partnership agreement. The idea is to standardize not only the form of the contract, but the method of application and acceptance or rejection. One reason to establish such standards is to avoid the complexity becoming too much for the applicants. We have also tried to make the procedures seamless, and to do this we attempt to mimic the current process for which the Agencies have set their guidelines for standardization.

To organize the proposal, we divide the issues into a sequence of steps that go all the way from the application to the closing:

(5.1) Applying to the Limited Partner,
(5.2) The Limited Partner’s Reply,
(5.3) Forwarding the Application to a Lender,
(5.4) The Lender’s Reply, and
(5.5) Closing.

The reason that we place the limited partner in front of lender in this sequence is that provided there is no fraud in the application for a mortgage, the limited partner can use the lender to screen against applicants who have unacceptably high default risk. In the course of the discussion below, we will also indicate why default costs for lenders will not be significantly affected in an adverse direction by the presence of a limited partner (in fact, if anything it seems likely that these default costs would diminish). We close the section with an overview of our proposal for the primary market.
5.1. Applying to the Limited Partner

After having a bid accepted for a house purchase contingent on obtaining financing, an individual interested in a partnership contract would make contact with a lending institution that offers this form of financing. It is likely that purchasers will use real estate brokers to gather information to decide on which limited partner to apply to. It is therefore important that there be active competition among potential limited partners, and that there be a good supply of public information on the performance records of limited partners.

It is also important that prospective managing partners have a clear idea of the terms that limited partners are likely to demand of them, and whether or not the limited partner will pay a par price for the shares. This means that there will need to be some form of standardization in the market. One factor that would greatly enhance both standardization and competition among limited partners would be the development of a liquid secondary market for trading housing partnerships. We see this as an important aspect of housing partnerships, as outlined in the next section.

Once the potential managing partner has identified a suitable limited partner, they submit their application to the limited partner. The application must specify the amount of ownership being offered to the limited partner and any other relevant contract choices from a standard menu of contracts. It also contains all information that is currently submitted in a mortgage application, together with additional information relevant to tracking past performance as a managing partner. In addition to specifying the desired form of partnership contract, there is an application fee that must be paid to the potential limited partner. Finally, the managing partner should sign a clause releasing the information on their prior experience which is deemed relevant to estimating their performance as a managing partner.

5.2. The Limited Partner’s Reply

With the application in hand, the potential limited partner will conduct an appraisal, analyze comparable equity pricing, and check on the information provided by the managing partner. Separate scoring methods may develop to inform prospective limited partners of any potential problems in dealing with the managing partner. This scoring would focus on the likelihood that the managing partner will properly maintain the property, and would include information on prior property dealings, rent records, legal filings, and possibly personal references. Among the probable checks will be a matching of 1099b filings against past house prices to check for fraud.
One issue that may arise occurs when the appraisal comes in significantly below the bid price. In this case the applicant will either have to renegotiate the bid price, put equity into the deal, or be willing to accept a disappointingly low price on their equity ownership percentage. A fourth possibility is that the bid will be withdrawn by the buyer.

If the managing partner has a good record and the appraisal comes in close to target, then the limited partner will check the pricing on similar equity and come up with a price offer on their share of the equity, with possibly some other minimal contract adjustments. They will return this to the applicant, who will then have a fixed period in which to take the next step. In other cases, the limited partner will reject the deal altogether, and for this they must specify a reason.

5.3. Forwarding the Application to a Lender

With the limited partner’s offer in hand, the managing partner can either reject the offer, or reply with a conditional acceptance. In the majority of cases, the managing partner will wish to take out a mortgage to finance their portion of the equity, and they must be able to obtain a mortgage on acceptable terms as one of the conditions for the deal to be consummated. For a managing partner who does indeed require a mortgage and who decides on a conditional acceptance, they then fill out a form specifying the general terms of the mortgage that they require, together with a second application fee, which they forward to the potential limited partner. At this point, the limited partner forwards all materials to the lender of choice.

5.4. The Lender’s Reply

With the completed application in hand, the lender gathers all of the traditional information, together with the terms of the limited partnership and the estimated house maintenance expenses. The loan underwriting process by the lending institution would be little changed by the partnership contract. The lending institution will obtain an appraisal on the property, do a credit review, and verify the information provided on the mortgage application. We expect that in many cases the limited partner and the lender will share appraisal and credit findings to avoid duplicating efforts.

The reason for placing the lender after the limited partner in the process is that the amount that can be borrowed can only be specified once the limited partner has made an offer on the equity share in the house. With the application in hand, the lender would proceed much along the lines outlined in
Section 2, with the three options of acceptance, rejection, or asking for straightforward modifications such as PMI. Again, if PMI is required, the PMI company would do its information gathering and make its own decision. At the end of the process, the decision is sent back to the potential managing partner. In the case of acceptance, the issue is back in the hands of the managing partner.

An important issue is what the lender would think about making a loan to a managing partner. To a first approximation, there is no reason for them to behave differently with a managing partner than they would with a standard borrower, so that we expect the same LTV and PITI standards to be maintained. The clearest exception to this would be the likely addition of estimated maintenance costs to the flow of expenditures, as outlined above in Section (3.2).

The main reason that we see no first order reason for the lender to change the nature of their loan granting process is that they are currently exposed to a set of risks when they extend loans to households that are unlikely to be adversely impacted by the presence of a limited partner who has an interest in maintaining the underlying property. To see this, note that if the managing partner follows the terms of the partnership contract, then they must be making all the installment payments on their mortgage. The only risk of loss to the lender in such cases arises if the lender cannot recover enough money from the sale of property to cover their debt, and must declare bankruptcy. This same situation exists today, and here the lender may in fact benefit from the presence of a limited partner who will ensure that the property is sold for the highest possible price.

Other issues arise due to managing partner breach of contract. But note that the chief methods of breaching the contract are through neglect of the underlying property, or through defaulting on the mortgage. In both cases, the lender is happy to have the limited partner step in and help to curtail the losses that would otherwise belong to the lender in such cases. One final issue in favor of lending to a managing partner is that the typical application is not likely to involve such a high level of payments in relation to income, thereby lowering default risk and overall default costs.

5.5. Closing

Once the applicant receives a commitment from the lending institution and the limited partner, their contract with the seller is finalized at a closing. The title would indicate that the property is co-owned and would list the equity ownership shares of each partner. At the closing of a housing partnership to purchase, with the managing partner also needing a mortgage loan, we would expect to see all of the standard parties, and an attorney representing the limited partner. All parties would come with the
contractually stated amounts of funds: the managing partner brings the downpayment, the limited partner brings their payment for their equity investment, and the lender brings the mortgage funds. In return the managing partner and limited partner each receive title with shares and the partnership contract, and the lender receives the mortgage contract.

One issue that may cause concern to the lender would be if the partnership contract sold at a significant discount to par. For reasons outlined in the next section, we do not see this as highly likely. To a first approximation, it is likely that borrowers would not be willing to lend to cover the discount to par without some kind of rate penalty, or a tightening of the payment to income ratios. For all of the reasons outlined above, we expect there to be some room for adjustment of terms along these lines because we see lenders as having a sufficient preference for lending to managing partners as against the classic owner occupier.

5.6. Overview of Primary Market

Note that the process of purchasing a house with a limited partner does not differ in its basic fundamentals from the current procedure. Overall, the increased transactions costs can be detailed, and they are unlikely to be significant. The increased time costs can be minimal with the issuance of appropriate industry guidelines. The cost of increased complexity and uncertainty for the purchaser will vary by individual. The cost of the additional information would be a marginal cost to a credit bureau, and is estimated at about $25 (a merged credit bureau is currently about $15).

The standardization of the application process as outlined above is important not only for the simplicity of the application but also for enhancing the potential secondary marketing, as detailed in the next section. Indeed, the standardization induced by the desire to sell limited partnership agreements in the secondary markets would in turn have an impact on the range of options available to managing partners. In a setting with active secondary markets, note that the limited partner who sells off to the secondary market plays a rather interdependent role. The main focus of their job is to help decide on the appropriate partnership product for the managing partner to choose at application, and to ensure that there is no breach of contract in their role as servicer. In all likelihood, the enforcement of many aspects of the partnership agreement would be left in the hands of the servicer for the limited partnership. In this manner, and similar to the current market structure, the limited partners would also earn a stream of servicing payments as their return for guiding the managing partner in their choice of partnership agreement.

There are many surrounding institutions that affect the reception of new contracts, including the institutions that price and market the contracts. In particular, the development of a massive secondary market in conforming mortgages has greatly increased the liquidity of the current U.S mortgage market, and we believe that the development of a market to trade limited housing partnerships contracts would also play a critical role in the further development of the markets in housing partnerships. These institutions are very well developed in the current U.S housing finance market, and in this section we consider how these institutions could be adapted to improve the functioning of the market in housing partnerships.

We organize the discussion of the secondary markets into several subsections:

(6.1) The Specialist and Packaging of the Partnership Agreements,
(6.2) Market Makers and Short Sales,
(6.3) Forward Market, Futures Market, and Derivatives Markets, and
(6.4) Return Properties and Valuation.

In essence, the first three subsections follow the partnership contract through the logical sequence in which we believe that the markets would develop. In the final subsection, we comment on the return properties of the various securities sketched in the first three subsections. Overall, there reasons to believe that there would be considerable interest in the mutual funds that we propose. This is because housing has historically provided a high average rate of return (Ibbotson and Siegel [1984]). It also has a pattern of returns that are not available in other asset markets, and thus provides expanded opportunities for diversification of risk for institutional buyers.

6.1. The Specialist and the Packaging of Partnership Agreements

At the point of origination, the limited partner owns an investment that has acceptable return properties, but with an uncertain maturity. This is because the managing partner has the right to trigger the event of sale in all but a small number of event states (states of breach). One of the first concerns of the limited partner will be to take advantage of the ability to sell off the partnership agreement at a fair price without waiting for the uncertain termination. Therefore we expect an institution to appear in the role of specialist for the partnership contracts, standing ready to buy or sell the contracts at all times with a commensurate bid/ask spread.
Unlike other financial markets (such as stocks), the partnership contracts represent an interest in an idiosyncratic property, with only one contract issued on each property. Therefore it would be quite difficult for the specialist to obtain sufficient trading volume without bundling the contracts together. The specialist would therefore have to issue guidelines on what an acceptable contract was, so that while the individual terms of the contracts may vary, the partnership contracts could be composed of standardized covenants.

We envision the specialist buying the partnership contracts, holding them in portfolio, and issuing shares on the underlying baskets ("fund shares"). The specialist could choose to split up the portfolio into geographic baskets (region, state, MSA, zip code), or along a variety of other dimensions depending on the desires of the institutional holders of the fund shares and any pertinent guidelines provided by government policy makers. While there may be many institutions that would be able to undertake the role of specialist in partnership contracts, the Agencies have much to recommend them as prime candidates for the role. In fact the market that we are sketching out is modeled to a large extent on the existing secondary mortgage market, where it is FNMA, Freddie Mac, GNMA, and certain large financial institutions that play the key role analogous to that of the specialist.

By taking on the role of a standard setter, the specialist would allow potential managing partners to gain a close understanding of the terms of the partnership agreement, so that they can make informed offers on a house. The presence of a specialist standing ready to buy out limited partners who have issued conforming contracts will also greatly increase the willingness of limited partners to operate in the market, since the liquidity is so greatly enhanced and risks get passed on to the broader market. Finally, the specialist adds value to the limited partnership agreements by marketing the contracts to the broadest possible audience of investors.

The precise role taken by the specialist cannot be predicted at this point. One question is whether or not the specialist would add any form of credit enhancement to the fund shares. Another complex issue is how to combine the underlying limited partnership agreements into pools in an optimal fashion. The issue of how to pool limited partnerships is especially intriguing, since it may have a significant effect on market completeness, market efficiency, and possibilities for hedging housing market fluctuations.
6.2. Market Makers and Short Sales

Once an institution stands ready to be the specialist, it will have to find institutional or individual buyers of the fund shares. These fund shares would be likely to appeal to several types of institutions as buyers with most of them being large portfolio investors, who want the return properties of the fund shares. Other potential investors would be individuals who as future first time or trade-up home buyers may wish to incrementally hedge their future housing price purchase by buying a consistent amount of fund shares over time. Still other examples would be Property and Casualty firms that have underwritten replacement cost contracts as homeowner insurance. The fund shares would provide some hedging ability for future increases in policy payouts due to house price appreciation.

The pooled contracts would also be an interesting investment opportunity for foreign investors. This could provide a massive new low cost source of funds for the U.S. residential housing market. Of course the ultimate nature of the demand for these fund shares depends on the prospective return stream on the underlying partnership agreements, which we discuss in more detail in (6.4) below.

Once the market for buying the fund shares evolves, we expect to see the market develop for shorting the shares. Brokerage firms and other financial institutions will begin to become market makers in the specialist’s shares. Once the market makers appear, they will begin to accumulate inventory in these shares. As they accumulate this inventory, it will be profitable for them to lend out this inventory to firms or individuals who wish to short the market.

Any institution with a business whose returns decline when home prices drop will have a potential interest in short sales of partnership agreements. An obvious first example are homebuilders, who can be expected to engage in short selling from time to time to enable them to smooth their production schedules and hedge any losses in their inventory of homes. Other examples would be firms that make products that are primarily sold to home buyers or builders, such as carpeting, appliances, heating, bathroom fixtures and so on. These firms would be expected to short from time to time to hedge their fixed cost investment in the production facilities or to balance their mix of financial and operating leverage. In addition, individuals who owned homes could short the specialist fund shares to provide a partial hedge against losses in the value of their property, although there would be some basis risk since their individual home would not be perfectly correlated with the specialist fund shares. Note that the precise nature of the hedging possibilities that the market maker could offer would depend on the manner in which the specialist bundled the original partnership contracts.
6.3. Forward Markets, Futures Markets and Derivatives Markets

The next market that we would expect to develop would be the markets for future delivery of the partnership contract, either forwards or futures or both. There are many parties in the housing market who anticipate changing their exposure to the housing market at some future date. These parties will desire the ability to hedge that risk either through forwards or futures. Examples would be a home buyer and a builder who have contracted for delivery in six months, a manufacturer of household appliances who has just begun constructing a factory that will be complete within six months, and a municipality that begins construction of a new school using bonds backed by property taxes.

At the early stage of development of the markets for future delivery, one would expect the large institutions to be the main players, since they have the capital to cover any counterparty risk. In many cases they may care to execute forward contracts, possibly with the specialist or the market makers. The specialist may have a natural incentive to hedge either future appreciation, geographic risk, or volume at any point in time. Forwards are an inexpensive way for these larger institutions to hedge larger more discrete exposures such as a factory investment. However, the individual nature of the forwards (lack of standardization of terms such as amount, delivery date, underlying commodity definition, etc.) mean that trading or settling these contracts prior to the settlement date will probably mean trading in a somewhat illiquid, brokered market.

In time this illiquidity may give rise to a futures market. As the specialist, market makers, and participants gain experience in the performance of the pools of properties underlying the limited partnership shares, the market can begin to construct indices of their returns. At this point one can envision one of the futures exchanges setting down delivery terms, trading dates, and all of the standards that make for an orderly futures market. Smaller institutions could then enter the futures market by posting margin to cover counterparty risk (although this will still be a cost), and one could trade the future commitments easily and cheaply across a commodities exchange without actually accepting physical delivery or waiting for the settlement date.

At the same time that the futures market develops, one would expect to see the beginnings of the markets for options and/or other derivatives with fund shares based on the partnership contracts as the underlying asset. The main advantage for the market participants from this evolution would be the ability to increase leverage and thereby lower the costs of hedging. There is another benefit that may arise from the ability to dynamically hedge these contracts. The basic underlying asset has a rather long economic life, and many of the market participants are investing with a long term time horizon. With this long time
reference, one could imagine various institutions lengthening the potential time frame for future delivery by engaging in dynamic hedging and "arbitraging" across the forward (future) market, the underlying asset market, and the debt market. These institutions could then offer "insurance" to mitigate long term risks for a fee to smaller investors, who would not want to engage in the transaction costs and lack the technical knowledge to dynamically hedge for themselves.

6.4. Return Properties and Valuation

To a first approximation, the return pattern on packages of limited partnerships will mimic those on residential real estate, where the maturity is uncertain due to the managing partner's right to select the date of sale. For this reason, the paper by Ibbotson and Siegel which points to the attractive pattern of historical returns on real estate is a relevant starting point for assessing demand for limited partnership agreements, and provides strong grounds for optimism concerning institutional demand.

There are several ways in which the limited partnerships may not correlate perfectly with the historical pattern of house price returns. The first reason arises from the set of contractual problems detailed in Section 3. The servicer will require a fee for monitoring the contract. There will also be certain residuial issues of moral hazard that may result in a less careful treatment of the property and less work on additions to the house than for a fully owned home. There is no reason to believe that these issues would loom large provided the contract was well written and the servicer of the contract was proficient at contract enforcement.

A more difficult issue to assess is the cost arising from breach of contract by the managing partner. However, the contract of Section 4 is written to keep these issues to a minimum, and the primary form of problem is likely to arise only when the managing partner breaches their agreement by defaulting on the mortgage that they have taken out on their portion of the equity. The issue of default is well studied, and there is no reason to expect it to cause more of an issue in valuation of limited partnership contracts than it currently causes in the secondary mortgage market (see Quigley and Van Order [1991] for confirmation of the low default rates on high quality mortgages). Indeed, there may be possibilities for the specialist to act as a securitizer, by offering insurance against this form of breach in a similar manner to the insurance currently offered on many mortgage pools.

There is one powerful force that runs in the opposite direction to the moral hazard issue outlined above. Recall that one basic motivation for the partnership contract is to improve risk sharing in the economy. In the current institutional structure, many home owners have asset portfolios in which the
The value of a house is overwhelmingly large. For this reason, they are highly risk averse when deciding how to value the returns that they can obtain through owning their own home. This extreme risk aversion may be the chief reason that historically residential housing has yielded high long run returns as an asset held in portfolio, in addition to an implicit stream of rental income to households. A house is a more valuable asset when its return stream can be diversified in the manner that partnership agreements would allow, and there is every reason to expect that absent contractual problems, the institutional investors will place a higher value on their half of the housing asset than does the risk averse household.

Finally, there are a set of complex issues of valuation that will not be settled until the market has been operating for some time. For example the issue of when managing partners choose to sell their properties will influence the pricing of limited partnerships, although the direction of influence is hard to predict at this stage. One other aspect of the contracts that will influence valuation are issues of self selection. The dangers of breach of contract and of poor maintenance of the property will depend to a certain extent on who it is that ends up becoming managing partners. It may be that the contracts will have greatest appeal to lower and middle income potential home owners, raising the possibility that the relevant rates of delinquency will be somewhat higher than those on the average mortgage. But against this, those who become managing partners will not have to take out such large loans, which will act to lower the delinquency risk. How these forces balance is an empirical matter. Note also that to improve the treatment of this effect, and thereby price or hedge it more accurately, pools could be constructed based on the LTV on the underlying mortgage. However, much ignorance will remain on this score until the contracts are launched and the secondary markets develop.

Overall, there is reason to be optimistic concerning the potential supply of funds to limited partners. Of course the depth of the market for partnership contracts depends not only on the willingness of institutional investors to hold limited partnerships, but also on the demand for managing partnerships. We therefore turn in Section 8 to analyze which households are likely to wish to become managing partners, and thereby matching the supply of limited partnerships in forming the primary market for partnership contracts.
7. The Agencies and Public Policy Choices

In addition to the changes in the behavior of many private sector participants in the housing market, the proposal opens up options for the Agencies and for general issues of public policy. Successful change will require the cooperation of many market players, since it relies on a deep and thorough understanding of change in the mortgage markets.

7.1. The Agencies and the Direction of Market Evolution

We see several important potential roles for the Agencies in the market for housing partnership contracts:

(a) Specialists and Market Makers in the Secondary Market,
(b) Standard Setters in Contracts and Providing Information, and
(c) Coordinators of Research and Reform.

While we see the Agencies as very well suited to these key leading roles, they are far from the only players that could take the lead in encouraging the development of housing partnerships. These roles are open to all financial institutions that individually or collectively in many facets of the U.S market for housing finance. Ideally, we would like to see competition among these institutions to become market leaders.

7.1(a). Specialists and Market Makers

The potential role of the Agencies as specialists and market makers has been outlined in Section 6 above. It is important to note that in addition to all of the benefits that the Agencies can bring by taking on such a role, they would also be in a position to reap large profits from this role. For this reason, there is reason to believe that if the Agencies should choose not to take this role, then it may be possible for private sector financial institutions to step into this position, either singly or as a consortium (similar to credit card associations or ATM networks).
7.1(b). Standard Setters

Should they become the specialist, a particularly important set of topics for the Agencies to consider concerns how to standardize and package the housing partnerships. As in the current secondary market, a specialist would be responsible for putting together standards of acceptability for the limited partnerships that they would be willing to purchase. Included in this would be details of a package of information associated with the deal, together with such issues as the nature of the appraisal on the property, and other pertinent details. In addition, there would be standard contract clauses that they would have to specify.

In addition to their role as standard setters, the Agencies in their role as specialists would have the crucial role of bundling the partnerships together into pools against which the equity would be issued. As the discussion in Section 6 indicates, the nature of the underlying pools may be important to the later development of derivative securities, and therefore to the possibilities for insurance based on local property values. More generally, the pools would begin to provide not only investment and hedging vehicles, but would also become a source of information for all market participants. As we discuss in Section (10.3), we believe that the nature of this information may ultimately turn out to have important consequences for the dynamic behavior of the housing market.

7.1(c). Coordinators of Research and Reform

There is one other role for which the Agencies would be well suited, if they chose to become the specialists and the standard setters in this market. In the description of the overall market for housing partnerships, there are various stages at which it is important for the various parties to have access to data on the performance of other market participants. For example, potential managing partners need to know the terms that have been offered by different potential limited partners, and would also like to know various aspects of the manner in which these different limited partners have carried out their contractual obligations in the past. On the other side, potential limited partners will want to know as much as possible about the relevant past behavior of different managing partners. While one would expect this information to gradually be made available in reasonable form as the market evolved, there may be an important role for the Agencies in guiding the development of appropriate forms of information, and specifying the kinds of information that each party must stand willing to supply to the other parties in the market.

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As the above analysis makes clear, the adoption of partnership agreements would require changes in the behavior of almost all participants in the housing market. To bring about such changes in a timely fashion will require a massive feat of coordination. We see the Agencies as the most likely coordinators of change. There is a clear need for lead institutions experienced in the entire process of house finance. Their reward would consist of being in a position to become the specialists and market makers. The Agencies may in turn wish to carve out major roles for other large private financial institutions to help adjustment take place in a timely manner, to ensure competition, and to increase the alignment of private and public interests.

Given the need for such large scale and coordinated adjustment, it is also important to consider who has an incentive to bring about this change. It may be that the difficulties of adjustment are especially severe since it is not easy to privatize many of the benefits of institutional changes such as those proposed above, since contractual innovations are so easily imitated. This again points to the Federally sponsored agencies such as Freddie Mac and FNMA are the most plausible candidates to bring about a practical discussion of these market reforms.

There are other cases in which the Agencies have used general economic arguments to guide reform efforts in housing markets. The most obvious is the development of the secondary market in mortgages which was one of the major reasons that Congress set up the Agencies, and is still one of the most important functions of the Agencies. The development of secondary markets was very slow, and also serves to offer a cautionary lesson to those who see reform as a quick and easy process. In their assessment of the development of secondary markets in 1961, Jones and Grebler [1961] looked for explanations for the slow pace of secondary market development. Indeed at that point it was altogether uncertain that the market would take off. Currently the Agencies are also coordinating efforts to expand the reverse mortgage programs, and are also finding that progress is slow and difficult. A recent issue of AREUEA contained a series of articles aimed at assessing whether or not this market has the potential to take off (some relevant articles are Boehm and Erhardt [1994], Chinloy and Megbolugbe [1994], Klein and Sirmans [1994], Mayer and Simons [1994], and Miceli and Sirmans [1994]). The transition from the drawing board to practice is far from trivial.

While it is clear that there is a need for some institution to play a coordinating role in bringing change to the market, the precise role that this coordinator will play is not so easily specified. One important aspect of the coordinator's role will be the gathering and processing of information relevant to guiding the partnership concept to a successful introduction. We feel that a key requirement for effectively guiding this change is structuring a process that will increase understanding of the key
uncertainties regarding the issues impacting the supply of and demand for these partnership agreements. Further economic research will be very important both to guide market participants in the kinds of new roles they would be forced to take, and to optimally design and refine the reform process.

More generally, we believe that further economic analysis will help guide the process of institutional adaptation. With study, it may be possible for researchers to provide guidance on rational directions for change, and therefore make it worth the cost. Without study, the uncertainties may give rise to continued inertia. But research in this area requires an unusually broad collaborative effort. For the economic analysis to be valuable, it is necessary to gain the cooperation of the current players who are best informed about the market conditions. Ensuring this cooperation is a very subtle issue for which the Agencies are well suited.

There are many vital aspects of partnership agreements in which further economic research would provide significant added value. Among the most important unknowns is the potential demand for managing partnerships from existing and potential home owners. To quantify this demand it will be important to measure the current risk-return properties of housing, and the housing premium caused by the current inability to diversify. This will also help in understanding the change in the risk-return properties of housing in an equilibrium with partnership agreements. Connected to this is the issue of current household tenure choice, and the nature of the choice between rental housing and owner occupied housing.

A second important topic of study is the optimal method of writing the contracts taking account of the goal of increasing home ownership. To analyze this, one needs to know the number of new qualifiers as a function of the reduced share that the individual needs to pay: both in terms of downpayment and the income ratio.

All mortgage lenders would have a big interest in the impact of the partnerships on the extent and nature of default risk. This relies on empirical analysis of default risks, and also analysis of the potential issues arising from moral hazard in the partnership contracts, as well as issues of breach. Analyzing the moral hazard problems and the impact of the various clauses in mitigating these problems is also important in setting out the contractual details and in setting prices for the partnerships.

To get more clues on how to structure the contracts to avoid later legal and financial problems, it would be useful to conduct a more far reaching institutional analysis, including a deeper study of the history of mortgage institutions around the world for useful analogies. This study could go beyond the residential property markets, into the contract forms in commercial real estate and other loans.
For the ultimate institutional holders of limited partnerships, valuation is very complex. There is clearly room for an increased understanding of the dynamics of house prices, and their relation to the nature of limited partnership values. This connects to such issues as knowledge of turnover times on housing, probability of breach of contract, and issues of self selection of households into the different types of contract.

However much study is done, the partnerships would doubtless begin with a feeling of uncertainty. This makes it reasonable to adopt a "go-slow" attitude at the beginning. It is possibly worthwhile to begin the process with deliberate experimentation. In order to be useful, experiments must of course be well monitored, and this again points to the need for coordination by a large financial institution such as one of the Agencies.

7.2. Public Sector Choices

Housing market partnerships open up many issues in terms of the relationship between public policy at the national level and the housing markets. The partnerships have tremendous potential to improve the efficiency of the housing market and to reduce the extent of the existing subsidies. There are three overall issues for public policy:

(i) How to encourage these markets to develop,

(ii) How to further public policy goals such as homeownership, and

(iii) How to reduce the burden on the public purse.

In this section, we address two of the most important policy areas in somewhat more detail:

(a) Tax Deductibility of Interest, and

(b) The FHA/VA Subsidy.

7.2(a). Tax Deductibility of Interest

Currently the Federal Government gives huge subsidies to residential housing, by far the largest of which is the (regressive) mortgage interest deduction. The introduction of partnership agreements presents the government with a fundamental policy choice. If it allows full interest deductibility to be transferred in the form of a tax credit to the limited partner, then it will not increase Federal tax revenues, but it will provide a large incentive to homeowners, which will also result in a significant positive shift in home ownership. On the other hand, if there is no transfer of the tax credit, the
government could take advantage of households' reduced demand for borrowing, and thereby reduce the cost of the mortgage interest deduction. This is clearly superior to the current situation, because the partnership agreement would replace a subsidy provided by the government with a payment willingly made by the private sector to share in the excess returns of housing caused by the inability to diversify. Of course, there are also many intermediate options of partial transfer of credit.

Beyond this, we envision that the introduction of partnership agreements will stimulate a more thoroughgoing change in public policy toward housing. Currently the mortgage interest subsidy involves extremely high costs, is regressive, and is not directly aimed at the goal of increasing home ownership. In contrast, partnership agreements are likely to draw highest demand from the kinds of lower wealth individuals who are most important for increasing home ownership. In fact it may turn out to be worth considering some reorientation of public policy away from mortgage interest deductibility and toward subsidizing the partnership contracts if continuing subsidies on the current scale are seen as economically or politically necessary. However, we believe that it may also be important to consider whether the implicit anti-rental bias of subsidizing owner occupation has any damaging effects, in which case additional subsidies to ownership may do even further damage to the rental sector.

7.2(b). The FHA/VA Subsidy

Given the Federal Government's concern with the homeownership rate, there are currently HUD subsidies on high default risk FHA/VA mortgages. For those who can afford a 20% downpayment, the conventional mortgage dominates on a cost basis. But FHA and VA loans tend to involve very low downpayments; there are FHA loan programs for LTV ratios up to 103. As a result of the lower downpayment and higher interest payments, FHA/VA loans have a higher default probability, as well as an explicit and costly government guarantee of payoffs to the investors in such loans. The articles by Cunningham and Hendershott [1984], Hendershott and Schultz [1993], and Hendershott and Wadell [1992] present analyses of the default performance of these loans.

Because of the low downpayment involved, FHA/VA loans are a key product for first time home buyers. In many ways first time homeowners seem like ideal customers for the partnership arrangements, since they are very likely to be among the house poor and consequently to have very few non-housing assets. Given the higher risk of default on FHA loans, limited partners are not likely to be willing to pay as much on the dollar for equity partnerships with FHA borrowers. However, if less has to be borrowed, then interest payments are lower and default less likely. Therefore, the net desire for limited partners to
supply these partnership contracts on FHA/VA loans is not immediately obvious because of the offsetting impact of lower partnership defaults versus the higher defaults due to the FHA/VA subsidy. In this case it quickly becomes evident that the ability to get limited partners for the FHA borrowers is dependent on the policies set by the Federal Government through HUD and through the government’s influence on the Agencies. Nevertheless, a central point is that these partnership agreements have the potential to reduce the total amount of the FHA/VA losses, which are paid for indirectly by the general public.

Therefore, this analysis leaves open the issue of the optimal response of the FHA and VA to the opportunities that would be presented by limited partnerships. However, what appears certain is that given a wise response by the various government agencies, these partnerships would open possibilities to expand the opportunities for first time home buyers.

Another important if somewhat obvious role for the Federal Government is to encourage the Agencies to coordinate their research if they believe that the proposal has sufficient potential to warrant further analysis.

In addition to these issues of Federal policy, there are important issues relating to local policies, concerning issues such as zoning. In addition, a state (like New York) that sees the growth potential for the securities side of partnership agreements may see it as worthwhile to encourage the financial institutions located in that state, and consequently take a lead role in market development.

8. Demand from Potential Managing Partners

In this section we explore the potential demand for these housing partnership agreements. In general terms, the partnership contract allows the existing home owners to either take a cash out diversification, or trade up to a better house, or both. These options will have the greatest appeal to those who are worried that:

(i) The high cost of housing reduces consumption possibilities, and

(ii) The high proportion of wealth they must maintain in housing raises their investment risk profile to an uncomfortable level.

This means that partnerships may be most important for those who are otherwise made house poor (individuals without significant non-housing wealth), and for those who face correlated risks in housing and human capital value.
Considering renters, the groups most likely to find the partnership option appealing are those who have reached a life stage in which they would now prefer to own, but who find the current income and downpayment requirements in the mortgage market too onerous. This may include many young married couples for whom the home ownership rate has recently been falling.

To gain a greater understanding of the potential demand for housing partnerships, we segment households into the divisions that are indicated by the current structure of the U.S housing market:

(8.1) Outright Owners,
(8.2) Owners with A Credit Conventional Mortgages,
(8.3) Owners with FHA/VA Mortgages,
(8.4) Owners with B-D Credit Conventional Mortgages, and
(8.5) Renters.

In the analysis below, we limit our attention to qualitative comments on demand, in large part because of the huge gaps in the industry’s current detailed microeconomic knowledge of the structure of demand and the nature of the constraints on housing market participants. Another difficulty in assessing the possible demand for partnerships stems from the important issue of precisely what role the Federal Government would choose to take in a world with partnerships. For example, whether or not a very high wealth household would be interested in a partnership agreement would depend critically on the manner in which the issue of tax deductibility of interest is handled by the Federal Government. A final important reason for caution in estimating demand at this stage is the presence of self selection effects on the side of managing partner applicants. The actual final demand for managing partnerships depends on the price that limited partners are willing to pay, which in turn depends on who selects the particular partnership in question.

8.1. Outright Owners

We begin by considering outright owners; either those who have entirely paid off any outstanding mortgage, or those who pay for the property without the need to take out a mortgage. For those who are full owners, the partnership’s only role is to allow them to sell off a part of the house primarily for purposes of increased diversification among their assets. Obviously, this group will have very little desire for the consumption side benefits, since they would have borrowed if they felt liquidity constrained in their current consumption. Here the housing partnership contract is in direct competition with a reverse
mortgage contract, which allows the household to take cash out of the house, but does not allow for any
diversification.

For those who have been homeowners for long enough to have paid off their old mortgage, the
issue of diversification is likely to loom large, since they will generally have less wealth than the outright
cash purchasers of homes. They are also likely to be among the older households, and may therefore be
at a point where they would like to begin consuming out of their housing equity (possibly in preparation
for a move into a smaller housing unit in retirement). For this group, the partnership agreement is also
in direct competition with the reverse mortgage. The chief difference is the reduction in risk involved in
the partnership agreement.

8.2. Owners with A Credit Conventional Mortgages

Owners with A credit conventional mortgages can be further subdivided according to whether they
have a conforming mortgage or a mortgage that is Jumbo\non-conforming by size. Note that we do not
consider it important to distinguish among the different types of mortgage by term or rate, since these
issues are not of direct significance in assessing the nature of the demand for mortgage partnerships. For
households with conventional conforming mortgages the equity partnership operates exactly as outlined
in Section 3, allowing some combination of a bigger house, a better diversified asset portfolio, and a
different consumption stream. It is very common for the PITI ratios on loans to be right at the upper
limit, so that there are strong reasons to suspect that the constraints set by the current market are binding,
so that the new options implied by partnerships would be of value to many.

One common non-conforming A mortgage is the so-called Jumbo mortgage. In a Jumbo mortgage,
everything is the same as in a conventional conforming mortgage, except that the loan required is above
the conventional size limit. Another common non-conforming A mortgage involves households with an
A credit history and enough downpayment to afford the house, but where they fail the debt income
screen. For both the Jumbo and income constrained mortgages, the issues are similar to those for the
holder of a conventional conforming mortgage. But here the ability to enter into partnership agreements
is especially beneficial, since it may reduce the necessary loan enough to make the mortgage conforming.
For the income constrained, this will improve their ability to qualify by taking them out of the higher rate
"exception" mortgages. However all that is involved for those who currently qualify for Jumbo mortgages
is a possible saving of a fee of 3/8\% on the annual rate if they are no longer non-conforming.
8.3. Owners with FHA/VA Mortgages

The demand for partnership contracts from those who currently would opt for FHA/VA mortgages depends critically on government policy, as outlined in Section (7.2) above. This is a key demand segment in terms of new home owners, and the housing partnerships offer a very promising avenue for encouraging private investors to both reduce the default risk on FHA/VA loans by reducing the amount that must be borrowed, and to introduce additional private financial institutions and capital to this segment of the market as limited partners.

8.4. Owners with B-D Credit Conventional Mortgages

We now consider those who currently cannot qualify in the A market due to an inadequate credit record. Borrowing on the B-D credit market generally involves more points, and/or a higher rate, and occasionally a larger downpayment. The key issue for a potential limited partner to consider is how to adjust the terms to deal with a managing partner who is borrowing in this market. One important point to note is that the limited partners are not as obsessed with payment history as is the lender. They are really more concerned with the applicant's behavior as a managing partner, of which payment is only one factor. For example a record of fine upkeep of rental property would be very useful as an indicator of the applicant's willingness to keep up the property as managing partner. While there may be some reluctance to enter into even a limited partnership when the managing partner has taken on a very risky debt burden; as a first approximation the willingness of the lender to advance funds in light of their greater loss in the case of default may cause limited partners to be quite interested. In as much as they do feel that there is some additional risk of default with the various costs that this would impose, they can always adjust the price they are willing to pay to become limited partners with an individual who is unable to obtain a loan on the A market.

The above analysis emphasizes the fact that the interests of the lender and of the limited partner are sufficiently different that there will be different methods of scoring households for their record and potential as managing partners. A particularly salient point is that the limited partners will not look as negatively on "no hits" (those with too short a credit history to qualify in the A market) as do lenders. Again this offers help to a group that currently finds itself blocked out of the regular A mortgage market. With less need to borrow, one can lower the default risk of this group and thereby reduce over time the extent of their higher interest rate.
8.5. Renters

The remaining households form a group composed of both current and prospective renters. This is an important group to consider, since one of the key questions is the impact of partnership agreements on the extent of homeownership. Note that much of the current discussion of how to increase the proportion of households that are homeowners focuses on the details of the application process, and changing the manner in which decisions are made in the granting of loans. On the other side of this the industry can point to the importance of leaving the assessment of credit risk in the hands of those with expertise, and in whose interest it is to minimize risk. In the past, attempts to persuade the institutions to make loans that they considered too risky have proven very costly (an example is the NIV program that was pushed in the late 1980's and has since been less conspicuously mentioned due to unacceptably high levels of default). In contrast the use of partnership agreements to expand ownership does not involve any additional need to constrain those who grant credit.

To assess the impact of the housing partnership agreements on this group, we subdivide the renting households according to whether or not they have a strong but currently unsatisfied demand to become homeowners. For example, young single renters who are highly mobile would not be likely to be tempted into ownership by the introduction of partnership agreements. However, young married couples with an expectation of rising income may well be positively influenced by the possibility of becoming a managing partner. This is an important category of potential homeowner, since they are among the groups that have recently shown a declining rate of homeownership (Green [1994]).

Even within the group that would seriously consider home ownership, there are important subdivisions depending on the nature of the constraint that they face in the current market. For example, the introduction of partnership agreements would do little for those who face some more qualitative constraint due to credit history or job history. However it is clear that the equity partnerships offer chances for those who are only renting due to an inability to afford the downpayment or pass the income ratio tests to qualify.

Note that an important segment of demand for partnership agreements is likely to arise from existing owners. There may be a very large pent up demand for this kind of product, which would result in a significant initial burst of volume. The fact that these partnership agreements would occur without any purchase or sale of the underlying property focuses additional attention on the need for very high standard appraisals.
In addition to all of the benefits that partnerships offer directly to the participants in the market, they would have many indirect spillover effects on housing and other markets, as outlined in Section 10.

9. Other Reform Proposals and Precedents

Given the magnitude of the changes and the need for more quantitative study to ensure a successful introduction of partnership agreements, it is natural to ask whether there are any current proposals for the market that would accomplish the same goals in a simpler manner. In this section we explore other approaches to reform. To simplify the presentation, these other approaches are divided according to whether the house is to be owned or rented. The section closes with a discussion of some precedents to the partnership contracts:

(9.1) Rental Based Options,
(9.2) Ownership Based Options, and
(9.3) Broad Precedents to Partnerships.

As we point out below, there is no proposal that comes anywhere near supplying the same array of benefits as the partnership contracts.

9.1. Rental Based Options

One basic impact of the partnership agreement is to allow households to enter the owner occupied portion of the housing stock at a lower cost than the current market allows. One question that arises is whether a household that would be interested in the partnership agreement may find an acceptable substitute by renting the underlying housing unit, and then finding some other way to invest in real estate to mimic the return patterns on a managing partnership in an owner occupied house.

One immediate problem with any such option is to note that it does not duplicate one of the major aspects of the partnership agreement, which is to allow the household access to the owner occupied portion of the housing stock. As detailed in Section 2.1, owning and renting are far from perfect substitutes. There is a general perception that the better housing is generally available to owner occupiers. To the extent that it is true, it paints a severe picture of why buying is so important. It is a matter of access to the better housing stock in the neighborhoods with correspondingly higher levels of local public goods, and may have little to do with financial preference.
But even if there were perfect substitution on the supply side between the owner occupied stock and the rental stock, an individual choosing to rent faces the challenging issue of how to get a return equivalent to the return on owner occupied housing. It is not a practical alternative for the typical individual to choose to own a whole rental property. Indeed it would be rather pointless to refuse to take owner occupation because it was too expensive, and instead opt to buy a rental property that would likely be equally expensive, and involve monitoring of contract compliance.

The most promising avenue for investing in a housing type of asset is for an investor to invest in multi-family REITs. Note that these are a big growth industry, but largely limited to institutional investors (see Williams [1991]). One problem with this option is that there is far from a perfect correlation between the returns on REITs and individual house prices the market. The rent market has its own dynamic, and there is not a great deal of understanding of how rents relate to changes in appreciation in the property market, income tax rates, rental zoning laws, rent control policies, differential tax structures and so on (see Blackley and Follain [1994] and Sirmans and Benjamin [1991] for studies of the determinants of market rent). In addition, there are significant management charges set by the companies issues that issue and manage the REITs, as well as idiosyncratic risks concerning management performance. There is as yet little reason for the small investor to feel that they understand the market well enough to be comfortable with its potential.

The above analysis indicates that it is very hard for a renter to obtain the benefits offered to them by the partnership agreements, unless there is some other radical change that takes place in the nature of rental markets themselves. One example of a more radical reform would be to create large national corporations that own properties and rent them to tenants, with the renting households owning shares in these well diversified corporations. While this is a fascinating idea, it does not appear in any way practical given the historical evolution of the U.S housing markets. It would require unprecedented improvements in the contract structure on rental properties, and may involve a very uncomfortable degree of residual control exercised by the corporations.

9.2. Buying Options

As already detailed, the partnership contracts offer owners several methods for taking cash out of their home and simultaneously diversifying their risks. The current methods for taking cash out of the home all lack the diversification benefit. Current methods for taking cash out include reverse mortgages, second mortgages, and home equity lines. But since they form part of the existing market structure, it
is clear that they will not be part of any solution to the current issues of housing affordability. The main problem is that these options become available to owners only when they have some equity in their house over and above that which acts as collateral against the mortgage itself. Once the owner has paid down the mortgage significantly, or the house has appreciated significantly, they are able to avail themselves of these options for taking cash out of their home. Even at this point, there is no diversification of the underlying asset risk, so that these contracts cannot be seen as effective substitutes for the partnership contract.

The only approach that has been suggested to allow individuals to diversify the risk involved in having their portfolios so heavily skewed toward housing is the price index futures suggested by Shiller and Weiss [1994] based on the repeat sales indices pioneered by Case and Shiller [1987]. In its conceptual form, the idea is to have the individual who buys the home take one side of a futures contract on a related house price index. The contract would specify that they get compensated if the value falls below the contractually set index level, and otherwise they pay the excess over this contractually set price. Typically, the contractual price would be set so that the price of the futures contract was zero at the time of origination. But the home buyer would still have to put up some cash to cover and maintain the appropriate level of margin. Therefore, this is at best a cash-in method of diversification.

There are many additional issues that arise concerning how attractive these futures markets would be to homeowners. One issue is that there are substantial concerns with basis risk as the value of the home and the index need not be perfectly correlated. If the index is based on a highly localized index of prices, then it is subject to manipulation. If it is based on a broader index, it is far less likely to correlate highly with the price of any individual's house. There are additional worries arising from the nature of the construction of the index itself, which being based on repeat trades is subject to the danger that it may fluctuate due to selection effects in the houses that trade most frequently, as well as issues of insufficient sample size in local markets.

Another issue is that there may be liquidity problems when futures are marked to market, as the homeowner faces a margin call as the futures position goes deep out of the money. One could therefore imagine the household being forced to take out a second mortgage to pay the margin call, with all kinds of possible difficulties ensuing if their own house is not appraised as having risen in value to the same extent as the general index. There is also a major tax and liquidity problem, when there is a situation of having futures gains currently subject to taxes while the corresponding capital loss is still unrealized.

More generally, the fixed and typically short time horizon in futures contracts would raise a number of difficult issues. An individual who wishes to sell their house before the contract becomes due
faces an additional risk concerning house price movements after they have moved out. This implicit risk may in turn cause difficulties in any effort to buy a new home. There would be issues of engaging in dynamic hedging strategies to offset the new risks that would otherwise be taken on, and since the majority of households are unfamiliar with these techniques for hedging they would hand the responsibility over to professionals, involving another additional cost. In addition, there are some quite sharp changes in house prices that may make it rather hard and costly to apply classical dynamic hedging techniques.

9.3. Precedents

Given that there is such a strong motivation for the existence of partnership contracts, it is not surprising that there have in fact been a variety of schemes developed and proposed that have properties somewhat analogous to those of partnership agreements. We know of several different types of precedent that have been suggested:

(a) The Shared Appreciation Mortgage ("SAM"),
(b) The ERA Contract,
(c) Relative Investment Schemes,
(d) The Victoria Scheme, and
(e) University Housing Policies.

Of these, the first two were put into practice, but remained rather underdeveloped and did not achieve great market penetration. The third was tried, but has only a very limited analogy with the partnership agreement. The fourth operates primarily as a form of government subsidy, and we are not aware that it has involved much effort at developing an institutional structure suited to the private sector. In Section (9.3(e)) we mention "partnership-type" policies that are offered by private institutions to their long term employees as benefits.

9.3(a). Shared Appreciation Mortgage

The SAM was proposed in the 1970's (see Dougherty, van Order and Villani [1982] for an introduction, and Murphy [1993] for a recent discussion), and discussed by Murphy [19]. The contract allows the households to increase their purchasing power by attaching an option to the lender that allows them to participate in any nominal price appreciation. In the classic contract, the borrower is offered a
1/3 break in their interest payments for a 1/3 share in the appreciation on the house. One big reason for the proposal to have been made in the 1970's was that it appeared to offer a way to reduce the very high interest payments caused by the high nominal interest rates and the failure to adopt price level adjusted mortgages. Note that the use of a discount on the rate causes a significant incentive problem in terms of the length of tenure, which resulted in considerable uncertainty regarding the capital gains or losses to both parties. In a low inflation environment, the longer the borrower remained in the property, the greater the extent of their subsidy, and any unexpected event triggering mobility (prepayment) caused the homeowner to lose. Therefore the SAM represents consumers betting on the accuracy of their estimates of tenure and refinance opportunities.

In addition, as written, the attractiveness of the contract depends critically on the rate of inflation. With no inflation in house prices, all borrowers would want the program, and no lenders would offer it. With hyperinflation, all lenders would want it while no borrowers would want the SAM. In fact, the program did not really take off in large part because the period of discussion extended beyond the period of inflation. Note that even at this time, one of the main grounds for hesitation in the implementation was concern that there would be significant incentive problems unless there was a substantial revision in contract terms (see Frieberg [1982]).

9.3(b). The ERA Contract

In the early 1980's, ERA real estate brokers made a brave effort to introduce a partnership contract (see ERA []). The contract had several poor covenants that probably ruled out a successful launch. As with the SAM, all the incentive problems and uncertainty exist because the "limited partner" made no equity investment, but instead gave the consumer a discount on the interest payments in the first few years, and took joint responsibility for maintenance expenditures. Unfortunately, the contract foresaw that there may be dangers in that the limited partner may not honor their commitment to maintenance expenditures in a declining market, but did not suggest a compelling way around this problem. The managing partner forwarded the cash for maintenance and the limited partner was not personally liable for any debts they incurred, and the managing partner would have to go to court to try to force collection of the unpaid debts. In fact, the limited partner had a tremendous incentive to "walk away" from the contract if house prices fell, leaving the household with uncollected bills.

In fact, the main structural point of the contract was to allow the limited partner to benefit from the tax subsidy on debt for owner occupied housing. For this reason the contract contained numerous
clauses to comply with the perception of what the IRS would like to see. In fact the apparent status of
the contract as a scheme for tax evasion would doubtless have provoked IRS scrutiny and possibly a
challenge in court.

9.3(c). Relative Investment Schemes

Closely related to the ERA contract are a variety of schemes aimed at facilitating capital
contributions from relatives to younger generations in return for some equity (see Guenther [1985]). For
the most part, this activity appears to have been limited to relaxing the Agency guidelines on the sources
of cash at closing, which is a somewhat narrow focus. It is difficult to judge the potential of these
programs since they carry a fee which it is frequently possible to avoid by finding cheaper ways to
overcome the cash at closing restrictions, which is not terribly difficult. As with the ERA contract, an
important aspect of these schemes has been the attempt to take advantage of the tax subsidy, by
structuring the program as a capital lease.

9.3(d). The Victorian Scheme

An interesting precedent for the partnership contract has been developed by the state government
in Victoria, Australia, as described by Yates [1992]. Here the government itself takes the role of limited
partner. However the program is primarily a method to offer a different form of subsidy to low income
borrowers in the stock of public housing. In effect, the primary goal of the scheme is to move some of
the public housing stock into a form of partial private ownership. The contract does not seem to have
focused significant attention to the incentive and marketing issues that we have analyzed above, since
moral hazard problems simply constitute another form of government subsidy. It would be of interest to
know more about the development of this scheme not only as a precedent to the partnerships that we have
sketched out above, but also to make the point that partnerships may offer an interesting option in terms
of the existing stock of public housing in the U.S.
9.3(e). University Schemes

There are a variety of institutions, such as Universities, that make private deals with their employees to provide a certain amount of help with the initial purchase of a home in exchange for a certain portion of the equity. Typically, these schemes operate on a very small scale, and may have terms that differ from individual to individual. They are frequently inspired by features of the tax code, or by the desire to offer differential rewards to different employees while keeping their salaries the same.

In addition to these precedent schemes, there have been a wide variety of other policy initiatives aimed at directly impacting the rate of home ownership. Government concern with the affordability of housing is of such long standing and deep importance that a great many schemes have been put forward to encourage lending to first time home buyers. Indeed a large aspect of the Agencies’ charters is the requirement that they offer a significant number of mortgages to first time homebuyers. There are frequently proposals to do with offering loans with low downpayments and reduced demands for qualification. All of these schemes raise of raising default rates in order to loan to more: there is a clear cost to balance against the potential benefits. The partnership contract offers the rare opportunity of increasing home ownership rates without raising default risk. Overall, we feel that housing market partnerships offer a variety of benefits that cannot be achieved by any other means.

10. The Broader Economic Impact of Housing Partnerships

In this section we begin to explore what may happen in real estate markets, financial markets and the broader economy if partnership agreements come to be widely used. Overall, we see partnership agreements as causing major changes in a great many areas of the economy. We outline these changes in the following order:

(10.1) Demand and Supply of Housing,
(10.2) Consumption, Asset Portfolios, and Risk Profiles,
(10.3) Indirect Effects on Risk,
(10.4) International Issues, and
(10.5) Public Finance.

In (10.1) we begin by considering the impact of the partnerships on the demand, supply, and price of the underlying housing assets, and on home ownership. We next consider impacts on
consumption behavior, asset portfolios, and risk characteristics of households in the economy. In (10.3) we explore some more dynamic general equilibrium impacts of the partnerships on the risk characteristics of housing markets, including the risk-return properties in the new equilibrium with partnerships, and possible implications of the development of secondary markets. In (10.4) we address some international implications of the partnerships, and in (10.5) we again outline major public finance implications of partnership agreements that have been discussed at some length in Section 7 above.

10.1. Demand and Supply of Housing

In as much as the partnership agreements lower the costs of owner occupation, they will stimulate trading up of houses. In the short term, this shift would primarily impact price as demand rises against a fixed supply. Within a few years, the demand and price increases will lead to new construction especially at the top end. This represents a boost to the entire construction and related sectors of the national economy. There is therefore likely to be a big difference between the impact effect (more on price so less impact on ownership) and the long run effect where a supply response brings prices back down, whereupon the full impact is felt on ownership.

Note that trading up by current owners may free up potential starter homes for poorer households. There is also likely to be an increase in the quality of the houses purchased, and a corresponding twisting of the price schedule. This may also open up the base end of the housing stock for those who are currently poor, and possibly be of indirect benefit to those who are the currently without homes.

There are other important indirect effects of altering the mix of owner occupied and rental housing. A smaller rental market segment may work against mobility. But since equity losses are partly diversified, there may be less of an effect of value collapse on such things as mobility (as analyzed by Chan [1994], Genesove and Mayer [1993], and Stein [1993]). Any reduction in downpayments means that there will be less liquid wealth constraints on mobility. In as much as the positive externalities of ownership are valid, the increase in ownership may have a positive impact on the quality of such local public goods as schooling.

In addition to the big level effects on demand, we also believe that the widespread use of partnerships would impact the risk characteristics of housing returns, and therefore the housing cycle. We discuss this after sketching the key asset market impacts.
10.2. Consumption, Asset Portfolios, and Risk Profiles

As already pointed out, a big purpose of managing partnership is to allow managing partners to take cash out of their house while at the same time diversifying the risks that they face. This frees up a potential constraint on expenditures, and changes the consumption savings decision overall. This may well have an overall effect on the savings rate, depending on whether the reduced need for "forced" savings by existing owners is offset by the new savings of the additional group of owners, and also on how much trading up takes place. In this regard, Engelhardt [1994] studies the need to save for downpayments in the U.S, while Hayashi, Ito, and Slemrod [1988] present an analysis of the impact of housing finance imperfections on the savings rate in the U.S and Japan.

In as much as the partnerships give rise to a reduction in the amount of mortgage debt overall, we should anticipate increases in other forms of debt. The altered risk structure to private portfolios is very important and can directly be expected to lower catastrophe risk for those who sell off part of their home to limited partners. This change in private household asset and risk characteristics will also go along with a change in the nature of consumption demand, as the house poor get freed up to make the purchases that they are currently unable to make.

In addition to the effects on private sector portfolios, there are likely to be big portfolio effects not only for the U.S household sector, but also in the institutional sector in the U.S and elsewhere. The partnerships would allow international investors the possibility of investing in U.S residential housing, thereby providing a huge new source of funds for this form of investment. There is also the intriguing issue of whether the presence of partnership contracts would impact the rates available for corporate borrowers.

10.3. Risk Characteristics: Some Indirect Effects

One important issue for housing analysts is that historically, housing markets have been highly volatile. On several occasions there have been large waves of defaults on mortgages in a property market crash: the most extreme case of this being the Great Depression. Connected to this is the boom-bust nature of housing construction, and the radical changes in the turnover rate in the housing market. The fluctuations in house prices have been much analyzed (see for example Case and Shiller [1989]), as has the connection between price, volume, and the general liquidity of the housing market (see Berkovec and Goodman [1993], Kluger and Miller [1990], and Janssen, Kruijt, and Needham [1994]).
We feel that the introduction of the partnership contracts would be likely to change, and possibly moderate, this pattern of extreme fluctuations. The most direct reason for this is that the partnership gives rise to improved risk sharing across the economy, and may lower default risks inherent in housing and impact the depth of the cycle itself. A more intriguing channel of change arises from the new information provided by the trading in pools of limited partnership agreements on secondary markets. The potential impact of the secondary market on the housing cycle would depend on the method used by the specialist to pool the standardized partnership agreements. One interesting possibility would be pooling contracts according to the date of purchase and location of the underlying housing asset. One could in this manner construct a mutual fund consisting of, say, $100 million dollars worth of property purchased in 1995 Quarter 1 in the New York MSA. Now note that with active trading in shares on this pool of properties, there would be a constant updating of market opinion on the value of New York real estate. By so radically changing the information structure of the market, the cyclical properties must also be expected to change. The nature of the relationship between information and fluctuations is not yet a well settled area of economic research, although it is an active area of research (see Caplin and Leahy [1994] for an introduction to this topic).

10.4. International Aspects

The most significant aspect of the partnership contract in the international arena arises from the development of the secondary markets, as outlined in Section 6. Once these markets develop, it would allow for a potentially massive capital transfer as the international community gains access to an opportunity to invest in the U.S residential housing market. Of course, a similar advantage would ensue for any major economy that developed the partnership contract. There is therefore a sense in which there may be competitive reasons to develop the markets as rapidly as possible, in order to become the primary magnet for this form of investment. Note also that there are other advantages to the country that innovates in this form of contract. There is the advantage of developing expert institutions that may become valuable to other countries in their efforts to develop an institutional structure allowing for partnership contracts.
10.5. Public Finance Impacts

The potential public finance aspects of the partnership contracts have already been addressed at some length in Section 7, and are mentioned again here just to reiterate their importance. The primary public finance impact of the large scale development of partnership contracts would be to enable the Federal Government to reduce the costs implicit in the mortgage interest deduction. Of course the actual public finance impact will depend on how the Federal Government responds to the opportunity that partnership contracts present.

The above analysis is far from exhaustive. But the far reaching nature of the changes that partnership contracts could bring about suggests the importance of keeping an open mind and looking for problems and for potentially beneficial spillovers as the market develops.

11. Concluding Remarks

In this paper we have outlined a form of partnership agreement to provide finance for house purchasers. We show how these agreements have the potential to reduce the costs of housing both to the household sector and to the government. We also detail proposals to help overcome the various contractual, informational, incentive based, coordination based, and inertia based barriers to these financial market innovations. While these barriers cannot be downplayed, they are far from insuperable: what is required is a major commitment of time and effort by the key market players and by researchers. We feel that the potential public benefits dwarf this commitment of time and effort.

12. References


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