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Facilitating Shared  
Appreciation Mortgages  
to Prevent Housing Crashes  
and Affordability Crises

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Advancing Opportunity,  
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# Facilitating Shared Appreciation Mortgages to Prevent Housing Crashes and Affordability Crises

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NOTE: This discussion paper is a proposal from the authors. As emphasized in The Hamilton Project's original strategy paper, the Project was designed in part to provide a forum for leading thinkers across the nation to put forward innovative and potentially important economic policy ideas that share the Project's broad goals of promoting economic growth, broad-based participation in growth, and economic security. The authors are invited to express their own ideas in discussion papers, whether or not the Project's staff or advisory council agrees with the specific proposals. This discussion paper is offered in that spirit. Two of the authors are engaged in commercialization of shared appreciation mortgages.

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## Abstract

If current trends continue, today's default crisis will soon be followed by an affordability crisis as an ever-increasing number of American households find themselves locked out of credit and unable to transition to homeownership. This reduction in homeownership will eventually create pressure to re-extend credit to marginal borrowers, in turn boosting house prices. As house prices rise, banks will likely relax lending standards even further. At some point, this credit extension will end as house prices stagnate or crash, just as they did in the current crisis. In short, the recent boom-bust cycle will repeat itself unless something is done to fundamentally change the structure of the mortgage market.

We argue that there is a simple way to prevent this dire scenario of boom-and-bust cycles from unfolding. Specifically, we argue that development of shared appreciation mortgage (SAM) markets in the United States would moderate the impending decline in homeownership and lower the risk of future housing crashes. SAMs can increase the affordability of homeownership by reducing the amount of monthly payments and spreading risk more broadly between borrower and lender. We present SAMs as both the obvious workout vehicles in the current default crisis and a vital part of the housing finance system that should be available at any time to interested homebuyers.

Despite their high potential, tax barriers effectively prevent the development of SAM markets in the United States. We propose changing the tax treatment in a manner that would facilitate development of SAM markets through purely regulatory means, rather than more complicated legislative means. With this creative regulatory response, current disasters may at least serve the role of fomenting the birth of beneficial SAM markets.

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## 1. Overview

If current trends continue, today's default crisis will shortly be followed by a lockout crisis induced by tightened lending standards. In this scenario, the homeownership rate will fall to levels not seen in decades as an ever-increasing number of American households find themselves unable to transition to homeownership. Looking further ahead, the reduction in homeownership will create pressure to reextend credit to marginal borrowers, ultimately inducing new flows of capital from the Federal National Mortgage Association (FNMA, or Fannie Mae) and the Federal Home Mortgage Corporation (FHMC, or Freddie Mac), and the private sector. Unfortunately, in the current mortgage market such an extension absolutely requires borrowers and lenders to place bets on continuing increases in house values. Even if such bets pay off for the first few years, one must expect that a final series of investments will fail as the hoped-for appreciation fails to materialize.

These projections should sound familiar: they represent nothing more than a rerun of the last housing cycle. From the mid-1990s until 2006, home prices in much of the country went through a long upswing, the economy was moving ahead smoothly, and equity markets were strong. With house prices growing faster than incomes, pressure grew for innovative mortgages to prevent households from being locked out of the opportunity for wealth creation that homeownership appeared to represent. Unfortunately, it is very difficult to design standard mortgages that expand affordability. One can reduce the down payment, but only at the expense of increased mortgage carrying costs (due both to the larger amount borrowed and the increase in risk). How creative it appeared when new mortgage products were made available, allowing lower payments early in the amortization period in exchange for higher payments later. Provided house prices had kept growing, there would have been few problems for anyone in the system, even those engaged in the

increasingly creative art of house appraisal. But stop growing they did, causing the current subprime crisis and the massive wave of default, investor loss, and human tragedy that has come in its wake.

The bad news is that the cycle of problems is nowhere near ending. As lenders recoil in horror from their now apparent past excesses, so the flow of private capital to home borrowers in the United States is drying up. So appalling have been investor losses that private risk capital will not be back in high volume for many years to come. While Congress will ensure that some capital continues to flow to housing using the taxpayer promises that ultimately support Fannie Mae and Freddie Mac, these funds will be insufficient to make up for the retrenchment by outside investors. Welcome to the affordability crisis. Predictably, as the rate of homeownership falls Congress will try hard to restore the confidence of private investors in the U.S. mortgage market in order to take the taxpayers off the hook. Ultimately, Congress will succeed in increasing the availability of capital to borrowers and the cycle of lending excesses followed by busts will begin again.

In this paper, we propose regulatory changes to interrupt this endless cycle of crises and to moderate the impending decline in homeownership. Remarkably, these changes require little more than following up on current interest in equity strips. Congress is currently considering creating such strips to entitle those accepting current write-downs to a share of future capital gains. The logic is clear: if taxpayers (and agreeable lenders) are asked to accept massive write-downs, they should be allowed to benefit if there are later capital gains (David Herszenhorn and Vikas Bajaj, "Congressional Memo: Tricky Task of Offering Aid to Homeowners," *New York Times*, April 6, 2008; Steven Pearlstein, "Stimulate the Economy, Don't Play Politics with It," *Washington Post*, January 9, 2008, p. D01; Lawrence Summers, "America Needs a Way to Stem Foreclosures," *Fi-*

*nancial Times*, Economists' Forum, February 25, 2008). Analogous equity options are available in situations of corporate distress. If a small business was lent money just before the onset of an industrywide slump, the business might find it impossible to pay the installments due on the initial debt. Provided the borrower was competent, viable on a day-to-day basis, and well suited to running the business, all involved parties would make every effort to maintain the business as an ongoing operation. One way to accomplish this would be for those who initially loaned money to allow some of their debt to be converted to equity in the business, which should be expected to return to profitability as the industry recovered. An alternative would be for them to be at least partly taken out by a third-party equity investor better suited to the risks involved in issuance of equity. That this class of option has been sorely lacking for homeowners in distress was highlighted by Larry Summers in the *Financial Times* ("America Needs a Way to Stem Foreclosures," *Financial Times*, Economists' Forum): "[M]ethods need to be found to enable creditors who accept a writedown in the value of their claims to retain an interest in the future appreciation of the homes on which they have mortgages. This is standard practice in situations of corporate distress, where debt claims are partially replaced by equity claims."

In order for such renegotiations to work, there would have to be reductions in interest payments to give borrowers breathing room. These reductions would take place together with a restructuring of the loan to compensate for the interest reduction during the life of the loan by an increase in later obligations should the house price recover. It is here that shared appreciation mortgages (SAMs) enter the picture. Rather than having an interest rate that is fixed and insensitive to the value of the home, the interest due on a SAM depends on how much the house appreciates or depreciates. Moreover, SAMs allow payments to be deferred for many years—until they terminate. This makes SAMs the obvious workout vehicles. In §2, we provide details on the workings of simple SAMs. We also detail the workings of a better-engineered version of the SAM, the

SAMANTHA (a SAM with A New Treatment of Housing Appreciation) that increases market potential. We use the collective term "SAM" for all such instruments, providing a general definition that captures essential common elements in §5.

Section 3 outlines the value of SAMs in terms of preventing housing crashes and affordability crises. Following Caplin, Chan, Freeman, and Tracy (1997), we show that SAMs are best viewed not only as a write-down tool available after disaster has struck, but also as an integral part of the housing finance system that should be available at any time to interested homebuyers. Past availability of such finance would have substantially mitigated the current crisis and lowered systemic financial risk. As we now know, the problem with pure debt finance is that even a small reduction in the homeowner's ability to repay can trigger default and foreclosure. In contrast, when the value of a company such as Google declines by a corresponding amount, the business is neither in breach of contract nor at risk of dissolution. If anything, pure debt finance is even worse suited to housing finance than to business applications since fluctuations in home values are largely beyond homeowners' control. Caplin, Carr, Pollock, and Tong (2007) (henceforth CCPT) and Abromowitz and Jakobovics (2008) make the case for SAMs in the context of housing affordability. CCPT provide a ballpark estimate that introduction of these mortgages would raise the homeownership rate by somewhere in the range of 0.5 to 2.0 percent. In the current context, it may slow the rate of decline by an equivalent amount and thereby soften the lockout crisis.

However valuable SAMs may be in terms of improving market outcomes, Caplin, Cunningham, and Engler (forthcoming) (henceforth CCE) show that tax barriers effectively prevent opening of SAM markets in the United States. They note that these barriers began to be erected as equity sharing was being introduced in the 1970s. The IRS moved SAMs onto the no-rulings list, effectively freezing market development. Moreover, any SAM that got past this blockade could expect to be treated

in a uniquely punitive fashion with investors being taxed as if they were receiving income prior to the SAM being paid off. In addition to being punitive, the rules on taxation of SAMs also are incoherent: they are very different when the SAM is issued as part of a workout or refinancing rather than as original financing. Overall, the tax issues are so complex that when Bear Stearns led an effort to reintroduce SAMs into the United States in the 1990s interested borrowers were warned of tax uncertainty and complexity and told to consult tax advisors! As a result, the product was swiftly withdrawn. This negative history is outlined in §4, while in §5 we highlight the preferred solution, which can be carried out through purely regulatory as opposed to legislative means.

Section 6 gathers obvious first-order questions concerning SAM markets, including how best to prevent abuse by lenders, how to effectively regulate the markets, how rapidly the markets would take

off once liberated, and how any such take-off would impact the American Dream of homeownership. While providing answers that reflect the current frontiers of knowledge, we nevertheless highlight key areas of ignorance. In this respect, a side benefit of the SAM market is the far greater incentive it creates to increase understanding of house prices and use of the housing asset over the life cycle.

We believe that there is only a short window within which to catch the reformist zeal related to resolving the subprime crisis. Many of the institutions that define the modern mortgage market owe their development to regulatory regimes and institutions set up in the aftermath of the Great Depression (Jones and Grebler 1961). With an appropriately creative regulatory response, current disasters may at least serve the role of fomenting the birth of socially beneficial SAM markets. Without such a response, the recent cycle will repeat itself with appalling predictability. Let's not waste this crisis.

## 2. SAM and SAMANTHA

Consider a household seeking to purchase a \$200,000 home with only 10 percent (\$20,000) for a down payment. In the current debt-based mortgage market, the household must seek a standard mortgage in the amount of \$180,000 to be paid off in monthly installments. In addition to high monthly payments, such high borrowing imposes substantial risks since any significant fall in the value of the home places the borrower in a negative equity position, where the value of the outstanding mortgage is greater than the value of the house. The recent period bears witness to the high risks of this home purchase strategy, which is likely to become ever more expensive in the aftermath of the current crisis. It is in this context that interest has been stimulated in SAMs as ideal complements to standard mortgages for home purchases. Example 1 illustrates the workings of such a mortgage for the household seeking to purchase a \$200,000 home based on a \$20,000 down payment.

### Example 1. How SAM Works

A homebuyer puts down \$20,000 on a \$200,000 home and borrows \$140,000 with a conventional mortgage. The remaining \$40,000 (20 percent) is covered by a \$40,000 SAM. There is no interest during the life of the SAM and 40 percent of appreciation is due at the end of the period for which the mortgage is held. The amount due on the SAM depends on what has happened to the value of the home.

- A. If the house has increased in value to \$400,000, the borrower pays back \$120,000 at point of termination (the \$40,000 initial loan and  $\$200,000 \times 0.4 = \$80,000$  in appreciation).
  - B. If the house has stayed constant in value at \$200,000, then the borrower pays back the original \$40,000 at point of termination since there is no appreciation to share.
  - C. If the house has fallen in value to \$100,000, the borrower again pays back only the original \$40,000 at point of termination since there is no appreciation to share.
- There are two primary benefits to the SAM. The first-order benefit of the SAM to the homeowner is that no interest has to be paid on the loan during its terms. Rather, the homeowner pays the loan off with a lump-sum amount at the point of termination either out of sales' proceeds on the home or by tapping in to the equity of the home. This is the advantage of the SAM in terms of the timing of payments.
1. **Timing advantage.** The fact that monthly payments during the life of the loan are replaced by a lump sum at termination enhances affordability for younger households early in the life cycle of earnings. Moreover, repayment can often (but not always) be timed to coincide with sale of the house at a time when all equity in the house is released.
- The other advantage of incorporating such a SAM into the financing mix lies in its superior risk-sharing properties to standard mortgage finance.
2. **Risk-sharing advantage.** With regard to risk sharing, the very fact that the cost of SAM finance is low when the house performs poorly and high when it performs well produces a sharing of risk. As for businesses, the combination of debt and equity spreads risk across the financial system, thus reducing the chance of borrowers being “under water” when home prices fall. This reduces the risk of default-driven financial crises such as the one we are now facing.

To understand why the SAM is of particular interest in the current period, consider the fate of a house-

hold that puts down \$20,000 on a \$200,000 home and borrows the rest with a conventional mortgage. As might happen today, they discover immediately thereafter that the appraiser overvalued their home and that there has been an additional fall in house prices. As a result, there is a sharp rise in the *loan to value* (LTV) ratio on the house—the ratio of outstanding mortgage debt to the value of the home. Default on loans is generally driven by some combination of a high LTV ratio and a fall in income. With an LTV higher than 100 percent, the household owes more than the house is worth. This lowers the household’s incentive to keep up with mortgage payments, particularly if there is a simultaneous fall in income. While the struggle to keep up with payments may be worthwhile for households with LTV ratios in the 100 percent to 125 percent range, this incentive disappears as the LTV ratio increases. It is not only a fall in house prices that causes the default, however, but also a simultaneous fall in income that makes it hard or impossible to meet the installment payments on the mortgage. It is here that the SAM enters the picture as the perfect workout tool. The simplest offer would be to substitute a SAM in the amount of \$40,000 for \$40,000 of the standard debt. This would immediately cut interest payments by more than 20 percent, providing many with the incentive to hang on to the home in hopes of a recovery in income and house value, given that default and foreclosure can be traumatic.

From the viewpoint of lenders and investors, one problem with this simple SAM lies in the incentive the borrower has to hold on to the mortgages for as long as possible to take advantage of a fall over time in the costs of borrowing. When the loan is first made, the borrower owes the lender exactly 20 percent of the value of the home; the 40 percent sharing of appreciation represents double this share. However, if the house doubles in value over time, then the borrower owes the lender 30 percent of the value of the home. The fixed 40 per-

cent sharing of appreciation hence represents far less than double this share. More generally, as the house appreciates over time the share that is owed of the house rises toward 40 percent; as it does, the fixed 40 percent sharing of appreciation represents less and less of an incremental return. Example 2, adapted from CCPT, illustrates the problem.

### Example 2. Borrowing Costs and the Holding Period of the SAM

Consider the \$40,000 SAM for 20 percent of a house valued at \$200,000. There is no interest during the life of the loan and 40 percent of appreciation is due at the end of the period for which the mortgage is held. Assume there is real yearly house price growth of 4 percent and yearly inflation of 3 percent.

- With termination after one year, the value of the property has grown by slightly more than 7 percent to approximately \$214,000. The borrower pays back approximately \$45,600 at point of termination (the \$40,000 initial loan plus \$5,600 of the \$14,000 in appreciation). The resulting cost of capital (the interest rate that brings the terminal payment to present value equivalence with the \$40,000 loan) is 14 percent per annum.
- With termination after ten years, the value of the house has almost doubled to approximately \$400,000 so the borrower pays back approximately \$120,000 at point of termination (the \$40,000 initial loan and \$80,000 of the \$200,000 in appreciation). The resulting cost of capital is approximately 11.5 percent per annum.<sup>1</sup>

Given that the cost of capital is lower for those with longer holding periods, these simple SAMs are likely to attract particular interest from those who intend to hold them for long periods, resulting in lower returns to lenders and to investors. Moreover, those who do take out this form of finance face an incentive to prolong the holding period. The long and unpredictable nature of the payoff

1. The cost of capital is the effective annual interest rate on a \$40,000 loan repaid for \$120,000 ten years on. It is the solution to the equation  $(40,000)(1 + x)^{10} = 120,000$ .

period appears to have derailed an innovative SAM that the Bank of Scotland introduced in the United Kingdom market in the mid-1990s. This SAM had a potentially very long term (until the death of the last coborrower), hence those issuing or investing in such mortgages could have no confidence whatever on when they would get a return on their investment, let alone what that return would be. Despite strong consumer interest, these mortgages were taken off the market in 1998 due to lack of interest among secondary market investors (Sanders and Slawson 2005).

There are two fundamental changes needed to overcome the “long holding period” problem. First, one needs to limit the term of the SAM to within the ten- to fifteen-year range, shorter than the thirty-year term of many conventional mortgages. Second, one has to allow the sharing rule to change with time. The tension here in any such scheme is that one would like to retain high homeowner interest in maintaining house value at the margin, and ever-higher rates of appreciation sharing erode this incentive.

CCPT outline a novel variant of the SAM that is immune to these problems. The simple idea is to base repayment on the value of the home rather than on the appreciation on the home, since this arrangement would give homeowners more of an incentive to maintain the value of the home. In fact, the amount due at termination corresponds to a share in the value of the home that increases the longer the loan has been outstanding. The rate of growth in this share is called the *shared-equity rate*. With the simple shared-equity rate mechanism detailed in CCPT, the dollar amount due on termination is determined directly by multiplying the share of the loan due by the value of the house. With this mechanism, declining house prices can reduce indebtedness below the original loan value. As noted below, this does not fit well with current tax rulings. In what follows, we will work with a variant in which the payoff is never allowed to fall below the initial loan value. It is this SAM based on a new treatment of housing appreciation that is

referred to as the SAMANTHA. We illustrate precisely how this mortgage would work in practice in Example 3.

### Example 3. How SAMANTHA Works

A homebuyer puts down a \$20,000 deposit on a \$200,000 home, and borrows \$140,000 with a conventional mortgage. The remaining \$40,000 is covered by a \$40,000 SAMANTHA for 20 percent of the house value with a shared-equity rate of 4 percent per annum. With this mortgage there is no interest during the life of the loan, and the borrower owes the lender the greater of \$40,000 and a share of house value that increases at 4 percent per annum over time: from 20 percent at initiation, to  $20(1.04) = 20.8$  percent after one year, to  $20.8(1.04) \approx 21.6$  percent after two years, to 24.33 percent after five years, and to 29.6 percent after ten years. To illustrate, suppose that the mortgage is paid off after five years, at which point the corresponding share of house value due is 24.33 percent.

- A. If the house has increased in value to \$400,000, the borrower pays back \$97,320 at point of termination, which corresponds to 24.33 percent of the house value.
- B. If the house has stayed constant in value at \$200,000, the borrower pays back \$48,660 at point of termination, which again corresponds to 24.33 percent of the house value.
- C. If the house has fallen in value to \$100,000, the borrower pays back the original loan of \$40,000 at point of termination, since this is larger than 24.33 percent of the house value.

As noted above, the advantages of the SAMANTHA over the SAM rest on the simple cost of capital. Example 4, again adapted from CCPT, illustrates this feature.

### Example 4. Borrowing Costs and the Holding Period of the SAMANTHA

Consider the \$40,000 SAMANTHA with a shared-equity rate of 4 percent per annum for 20 percent

of a house valued at \$200,000. Again, there is no interest during the life of the loan, real house price growth is 4 percent, and inflation is 3 percent.

- With termination after one year, the borrower pays back 20.8 percent of the approximately \$214,000 house value, with the incremental 0.8 percent share being 4 percent of the initial 20 percent loan. The total paid back is approximately \$44,512 and the resulting cost of capital is approximately 11.3 percent.
- With termination after ten years, the borrower pays back approximately 29.6 percent of the \$400,000 (approximate) house value with the incremental 9.6 percent share being ten years of compounded annual growth at 4 percent. The total paid back is approximately \$118,400 and the resulting cost of capital is approximately 11.5 percent (close to that for the SAM in Example 2).

As this example illustrates, the shared-equity pricing mechanism makes the cost of capital to the borrower (and therefore the return to the investor) independent of the holding period. To a first approximation, the real cost of a SAMANTHA is always 4 percent per annum above the real rate of return on housing regardless of the rate of inflation and the length of time for which the money is borrowed. In contrast, with a SAM the cost of capital is lower the longer the mortgage is outstanding. The cost of a SAM also depends on the inflation rate as noted in Example 2. The SAMANTHA therefore provides stable investor returns without distorting consumer behavior.

Note that the precise numbers used in the examples above are purely illustrative. In practice, the percent of appreciation a borrower would be charged on a SAM and the shared-equity rate on a SAMANTHA would be set in the market, based on competition among the suppliers of such finance.

### 3. What Needs Would SAM Markets Meet?

The basic claim of this paper is that SAMs can dampen and rectify debt-driven housing crises. Historically, house prices have gone through long upswings and long downswings. These swings cause problems associated with low housing affordability as house prices rise. During these episodes of affordability crunch, market participants and policymakers alike look for creative ways to increase affordability. In the recent past, this led to innovations such as option adjustable-rate mortgages (ARMs) which offer a low rate to homeowners in the initial years of the mortgage but may increase the interest rate in later years. Once house prices stopped rising, these mortgages proved disastrous because homeowners could no longer refinance their homes to negotiate better terms after the initial period of low rates. The advantage of SAMs over option ARMs in terms of enhancing housing affordability is clear: SAMs represent an alternative way of reducing financing costs without the same upswing in future payments that occurs no matter the value of the house. Indeed, the SAM insulates the lender better than any other form of mortgage against a fall in house value. In other words, the earlier availability of SAMs would have prevented the current crisis from becoming as deep as it has.

Much as one might wish that SAMs had been available earlier, they were not. This brings us to the question of how SAMs might be used in the context of the current crisis since they represent natural workout options in any renegotiation. To understand precisely how this might work, we return to the scenarios of §2, starting with a household that in the past put down a deposit of \$20,000 on a \$200,000 home and borrowed the rest with a conventional mortgage. Immediately after buying the home, the household discovered to its dismay that the appraisal had overvalued their home and that there had been an additional fall in house prices. As noted above, it is when this increase in the LTV ratio on the house interacts with a fall in income

that default is particularly likely.

- **Situation B (Bad):** Suppose that the house is worth \$160,000, 20 percent less than the purchase price. In this case, the standard mortgage debt of \$180,000 exceeds the value of the home by \$20,000 so the LTV ratio on the house is approximately 113 percent. This is in the danger zone but the household will likely keep paying the mortgage until and unless its income also falls significantly, at which point further struggle may not be worthwhile unless some way can be found to reduce installment payments. In particular, suppose that installment payments on the mortgage are 20 percent higher than the household can afford in light of a fall in income (or a reset in the interest rate). It is here that the SAM enters the picture as the perfect workout tool. The simplest offer would be to substitute a SAM in the amount of \$40,000 for \$40,000 of the standard debt. This would immediately cut interest payments by more than 20 percent, providing the homeowner reason to hang on to the home and avoid the trauma of default and foreclosure. Ideally, the trigger price at which the SAM would come into effect would be \$180,000 in this case, and the lender would get 40 percent of the appreciation above this value. In this manner, sharing would begin as soon as the borrower recovered to a positive equity position. Note that the lender would do far better in this case than if she simply were to write standard mortgage debt down by 20 percent since she would share the benefits with the homeowner if and when the value of the house recovered.
- **Situation VB (Very Bad):** Suppose that the house is worth \$140,000, 30 percent less than the purchase price. In this case, the standard mortgage debt of \$180,000 exceeds the value of the home by \$40,000, so the LTV ratio on the house is approximately 129 percent. This is deeply in

the danger zone. While the household will likely try to pay off the mortgage, any hardship in this regard caused by a fall in income is likely to trigger default. Here again, an offer to substitute a SAM in the amount of \$40,000 for \$40,000 of the standard debt may provide many such households with just enough reason to hang on to the home. However, it may be necessary for the lender to issue the SAM at a lower face value, say \$25,000 rather than \$40,000, to provide the homeowner with an incentive to struggle with payments long enough to return to a positive equity position. In light of this write-down, the house value would have to rise less than 20 percent to \$165,000 rather than to \$180,000 to put the homeowner back in a positive equity position. Ideally, the trigger price at which the SAM would come into effect would be \$165,000 so the lender would get a share of the appreciation as soon as the borrower recovered to a positive equity position. In light of the lender's agreement to take a write-down the lender might negotiate to receive 50 percent of the appreciation above \$165,000.

- **Situation T (Tragic):** Suppose that the house is worth \$120,000, 40 percent less than the purchase price. In this case, the standard mortgage debt of \$180,000 exceeds the value of the home by \$60,000 so the LTV ratio on the house is 150 percent. The incentive to default in the current market would likely be overwhelming unless there were a radical cut in installment payments. However, such a default serves little or no purpose since the collateral has genuinely lost value. It would be economically reasonable for the lender to replace somewhat more of the \$180,000 standard mortgage debt with a SAM, say up to \$60,000, thereby cutting fully one-third off mortgage payments. In addition, it would probably be appropriate to radically pare back the face value of the SAM, say to \$30,000, to ensure the homeowner would have a chance of returning to a positive equity position. In light of this write-down, the house value would have to rise 25 percent to \$150,000 rather than to

\$180,000 to put the homeowner back in a positive equity position. Ideally, the trigger price at which the SAM would come into effect would be \$150,000, so that once again the lender would get a share of the appreciation as soon as the borrower recovered to a positive equity position. In light of the large write-down, the borrower might negotiate to receive 60 percent of the appreciation above \$165,000.

The above examples are illustrative: we are aware that the actual fall in home value is not easy to assess, raising the danger that those who were not in fact entitled to such write-downs would seek to take advantage of any offers that may be on the table. Be that as it may, the advantages of having SAMs available as a tool in renegotiations are profound. Even for standard mortgages, future crises could be handled with far less drama if possible later renegotiations in case of joint shocks to value and to income were acknowledged in the initial contract. With such renegotiation clauses written in to the original debt contract, all parties would know that particularly bad market outcomes would result in standard interest payments being reduced in favor of equity participation. By simplifying the process of replacing debt claims with equity claims, such clauses would help homeowners and lenders avoid costly negotiations and reduce foreclosures. While investors who had expected to make money would still be shocked by how much they were losing, far fewer borrowers would face foreclosure due to house price declines.

The other major advantage of SAMs that we have stressed above relates to their role in softening the lockout crisis in which it becomes harder for buyers to find affordable financing. While there is currently much discussion of whether homeownership should be encouraged, we predict that this discussion will soon give rise to despair as the ownership rate collapses for younger and minority households who had only recently graduated to the ownership sector when this crisis began. Since use of a SAM reduces monthly loan payments and makes it easier for any borrower to afford a house, their availabil-

ity would offset the otherwise steep impending decline in affordability and enable renters to continue to transition to homeownership. Not only would SAMs enable households to move more rapidly to homeownership, they also would provide important bridging benefits for those with sharp current needs (e.g., an increase in family size) or prospects of rising income. CCPT provide a detailed analysis of how availability of SAMs would enhance housing affordability without raising risk. They compare three strategies: (1) immediately buying the largest possible home with only regular mortgage finance; (2) immediately buying the largest possible home with a SAM and delaying the purchase for ten years; and (3) saving and allowing assets to accumulate and then buying the largest possible house in Year 10 using regular mortgage finance. Even in bad cases, use of the SAM is superior to renting in terms of future housing affordability due to the immediate participation in housing appreciation. Moreover, even though affordability would be even higher if the household immediately bought into a far worse home with regular mortgage finance, the gap in future housing affordability in Year 10 is typically far smaller than the gap between the house initially purchased without the SAM and the house purchased with the SAM. In fact, if the household that buys the “too small” home with regular finance moves in the meantime, the extra buying and selling costs may leave it worse off in terms of housing affordability than a household that uses the SAM immediately to buy a more suitable home.

CCPT provide survey evidence of high consumer interest in SAMs based on a fifteen hundred–respondent survey conducted in February 2006. Tables 1 and 2 present a more comprehensive overview of the survey results. This survey was funded

by a research grant provided by the Fannie Mae Foundation to NYU with Andrew Caplin as lead researcher. It targeted households that indicated that it was at least “somewhat important” to buy their next home within the next five years. The survey was administered by Greenfield Online, a major supplier of Internet panel surveys. The sample was limited to residents of major metropolitan areas: Atlanta, Boston, Chicago, Los Angeles, Miami, New York, Philadelphia, San Diego, San Francisco, and Washington, DC. Care was taken to simplify the presentation of the pricing mechanism, tabulating the share that would be owed based on an initial loan for 20 percent of the house value and a shared-equity rate of 4 percent.

The survey evidence suggests that the overall level of interest would be very high, and that it would vary across households in a highly reasonable fashion. In agreement that this form of finance would be of most interest to renters facing a pressing need to move (a new child, for example), more than 21 percent of renting households with a child under age ten (or likely to add a child within the next five years) were highly likely to consider the product, as opposed to fewer than 12.5 percent of renting households without young children. Similarly, 22.5 percent of renters anticipating high income growth (above 8 percent per year) over the next five years were highly likely to consider use of the SAMANTHA, as opposed to only 13 percent anticipating no rise whatever in household income. The NYU/Greenfield survey results also suggest that most renters saw the SAMANTHA as a form of bridge finance that they would try hard to pay off in the short term. Finally, renters generally reported a direct preference for the new SAMANTHAs over interest only and negatively amortizing mortgages.

TABLE 1

Interest in SAMs by Demographic Characteristics

Owners				Renters		
	Total	Somewhat likely to consider (percent)	Highly likely to consider (percent)	Total	Somewhat likely to consider (percent)	Highly likely to consider (percent)
<b>Overall</b>	672	55	10	874	67	17
<b>Sex</b>						
Male	240	56	15	226	66	19
Female	432	54	7	648	67	17
<b>Family type</b>						
Expanding	363	61	12	487	72	21
Nonexpanding	309	47	8	387	60	12
<b>Education</b>						
High school completed	85	69	15	117	70	23
College completed	335	51	9	513	68	17
Post grad completed	252	56	11	244	63	15
<b>Age</b>						
51-55	110	42	10	70	60	13
46-50	92	55	13	90	74	20
41-45	102	49	7	102	62	21
36-40	119	52	13	116	69	23
31-35	104	59	10	160	63	13
26-30	100	66	12	216	72	17
21-25	45	75	4	120	65	18

Source: NYU/Greenfield Survey, unpublished data.

Note: An “expanding” household is one with a child under age 10 or one self-reported as likely to have a child within the next five years.

TABLE 2

**Interest in SAMs by Financial Indicators**

Owners				Renters		
	Total	At least somewhat likely to consider (percent)	Highly likely to consider (percent)	Total	At least somewhat likely to consider (percent)	Highly likely to consider (percent)
<b>Household gross income</b>						
Less than \$60,000	294	58	12	643	68	18
\$60,000–\$100,000	202	58	9	177	68	16
Greater than \$100,000	176	46	8	54	50	20
<b>Liquid financial assets (\$)</b>						
Less than 15,000	244	57	9	588	68	18
15,000–50,000	187	58	10	181	70	17
Greater than 50,000	241	51	12	105	57	14
<b>Annual expected income growth</b>						
0% or below	223	46	5	224	63	13
0–8	250	60	14	338	69	19
Greater than 8	161	62	13	212	75	23
<b>Credit card debt</b>						
\$0	421	55	9	409	65	16
Less than \$10,000	120	48	12	309	69	21
Greater than \$10,000	131	63	12	156	70	13
<b>Net equity in home</b>						
Less than \$50,000	258	65	11	N/A	N/A	N/A
\$50,000–\$150,000	179	56	10	N/A	N/A	N/A
Greater than \$150,000	235	43	10	N/A	N/A	N/A
<b>Annual expected rent growth</b>						
0% or below	N/A	N/A	N/A	272	59	13
Less than 4%	N/A	N/A	N/A	238	72	16
Greater than 4%	N/A	N/A	N/A	287	70	24

Source: NYU/Greenfield Survey, unpublished data.

Notes: N/A = not applicable. Due to item non-response, the sum of responses in certain categories may be less than the overall number of responses.

In addition to improving borrowers' prospects of ownership and diversifying their financial risk, there are important advantages of SAMs from a capital markets perspective. The best vehicle for funding these mortgages would be SAM-backed securities, comprising individual SAMs packaged together and sold to investors interested in residential real estate returns. Such securitizations avoid the agency problems that underlie the current collapse of confidence in mortgage-backed securities. The possibilities for overly generous appraisals and income assessments would be far lower given the SAM investor's direct interest in the borrower's ability to repay and in the value of the underlying collateral. Moreover, unlike subprime mortgages such securitizations would be designed to attract a clientele aware of the risks they were taking. In the past, investors in mortgage securities regarded themselves as receiving interest income on debt. It was for this reason that advice on the viability of these instruments came from ratings agencies that were patently unsuited to the underlying task, which requires an understanding of real estate returns and default risk. Investors in SAM-backed securities would have no such illusion since they would be explicitly investing in residential real estate returns. Just as investors in Google accept fluctuations in share values as par for the course,

so investors in SAM-backed securities would be accepting of risks related to fluctuating house prices. Rather than providing tax-funded guarantees to bail out disappointed losers, the federal role could largely be limited to setting rules of market conduct. SAM markets would guide investors to doing good while doing well.

As with equities, note that widespread investment in SAM-backed securities would create situations of highly correlated gains and losses in which large numbers of investors would prosper as housing markets improved and would suffer losses as they declined. Fortunately, such fluctuations generally have been very little correlated with equity returns so that their availability would dampen current swings in which net worth fluctuates dramatically with swings in investor sentiment in the equity market (CCPT; Goetzmann 1993). Indeed, it is precisely the lack of correlation between residential real estate returns and equity returns that makes SAM-backed securities so potentially attractive to investors for purposes of risk diversification. To understand why no such securities are currently on offer, we first need to understand the vagaries of the U.S. tax code and regulations in relation to SAMs.

## 4. Tax Obstacles

Unfortunately, the legal research we outline in CCE indicates that current tax rules make it essentially impossible to develop SAM markets in the United States. As a result, there can be no market test of the ability of such markets to resolve the current crisis and to reduce the scale of the impending fall in the rate of homeownership. We highlight three issues in particular on which we elaborate later in the section. CCE provide a yet more thorough and fully documented discussion of the tax issues in relation to current tax provisions.

- **The No-Rulings List.** Ever since issuing an extremely narrow ruling in 1983, Treasury has placed SAMs on the no-rulings list. This has made it impossible to get advance rulings on the ownership implications and the tax status of borrowers and lenders using SAMs.
- **Uniquely Punitive Treatment.** For any SAMs that somehow managed to slip past the no-rulings blockade, uniquely punitive treatment would await them. Investors would be taxed as if they were realizing income prior to the SAM being paid off. Investors would surely shun a novel mortgage security when the only certainty would be the need to pay extra taxes with no certainty as to how much would ultimately be received or when. This form of taxation on imputed interest prior to the borrower paying off the loan would be called for due to regulations relating to *contingent interest*-bearing instruments, which are debt instruments in which the actual amount of debt is fixed only in relation to a specific contingency—in this case, the rate of house price appreciation. What makes the treatment of SAMs punitive is that while the lender is being taxed on nonexistent income, the debtor is not allowed a tax reduction for having paid any such income. What makes the treatment unique is that, with all other contingent debt instruments, the situation is symmetric as between borrower and lender: if

the borrower is treated as having earned interest the lender is treated as having paid interest.

- **Incoherence.** In contrast with the extent to which SAMs are treated poorly under current law when they are issued as part of an original financing, they are treated quite well if they are issued as part of a workout or refinancing. In fact, it appears likely that the lender would be able to delay recording most or all of the contingent interest on the SAM at least until the income was received—and perhaps even longer! The contrast between original issuance and workout treatments of a SAM is so bizarre that it must be unintentional. The drafters of the relevant rules simply did not have SAMs on their screens when issuing the relevant rules.

### The No-Rulings List

In the inflation of the early 1980s with the interest rate on conventional home mortgages at 18 percent per annum the first SAMs were introduced to allow the interest rate to be cut to 12 percent per annum as long as the borrower was willing to share appreciation with the lender. Yet since SAMs sit in the grey area between debt and equity, originators sought clarity from the IRS regarding the ownership status of the home; that clarity was necessary for the borrower and lender to file taxes. It was the response to this question concerning the “federal income tax consequences to a mortgagor under a shared appreciation mortgage loan (SAM) used to finance the purchase of a personal residence” (IRS 1983) that forms the first-level block on market development. IRS Revenue Ruling 83-51 ruled that regular interest payments during the life of the loan and final payments of contingent interest could be deducted for tax purposes. Critically, the ruling was limited to “the fact situations set forth above” (IRS 1983), which included a detailed description of the mortgage in question. At the same time, all other

forms of SAM were explicitly moved to the no-rulings list where they remain to this day. In Revenue Procedure 83-31, soon after issuing Revenue Ruling 83-51 Treasury added SAMs to the list of issues on which it will not issue advance letter rulings or determination letters.

Section 163.—Interest.—The income tax consequences of transactions involving “shared appreciation mortgage” (SAM) loans in which a taxpayer, borrowing money to purchase real property, pays a fixed rate of interest on the mortgage loan below the prevailing market rate and also will pay the lender a percentage of the appreciation in value of the real property upon termination of the mortgage. This applies to all SAM arrangements where the loan proceeds are used for commercial or business activities, or where used to finance a personal residence, if the facts are not similar to those described in Rev. Rul. 83-51, 1983-1 C.B. 48. (Also §§61, 451, 461, 856, 1001, and 7701.)

This has remained the IRS’s position for the past twenty-five years with the latest statement that no advance rulings will be issued on SAMs being that of January 7, 2008, in Revenue Procedure 2008-3 (IRS 2008). The implication, then, is that anyone who is issuing anything other than a precise copy of the original SAM is unable to make definitive representations concerning tax treatment and ownership. To understand the damage this does the market one need only consider the aborted effort of Bear Stearns to reintroduce SAMs into the United States in the 1990s. Given that tax uncertainties could not be resolved via a ruling, the brochures introducing these novel mortgages to borrowers included the following stark warning: “The application of the federal income tax rules to a SAM is both uncertain and complicated, and the rules will affect each borrower differently. Accordingly, you must talk to your tax advisor about the federal income tax consequences to you of borrowing under a SAM” (cited in Caplin 2000, p. 19). No wonder the product was swiftly withdrawn!

## Uniquely Punitive Treatment

As a general proposition in a well-designed tax system, borrowing transactions should not affect the size of the tax base. In other words, the interest that the lender must include should be precisely offset by the borrower’s deduction. As long as the lender and the borrower are in the same tax bracket and use the same method of accounting there should be no net tax cost (or tax benefit) associated with these transactions. This was just the situation with SAMs at the time of the original ruling in 1983. At that time, contingent interest was thought to be too speculative to accrue during the term of the instrument and was taken into account by accrual method taxpayers at termination when the amount of the interest became fixed and by cash method taxpayers when it was paid or received.<sup>2</sup> Hence, SAMs were to be treated almost symmetrically: except in the case where the lender refinanced the SAM both the borrower and the lender would account for the interest at termination. For this reason, there was to be—as intended—very little if any net tax cost associated with these instruments.

Such a happy situation no longer applies to SAMs. In 1996, their tax treatment changed dramatically when Treasury finalized the regulations under §1.1275-4. These regulations generally subject debt instruments bearing contingent interest to the *original issue discount* (OID) provisions. OID is simply the difference between the issue price of an instrument (i.e., the amount loaned) and the amount payable at maturity. This amount is thought to be the functional and economic equivalent of interest. In 1982, in reaction to a variety of abusive transactions Congress enacted a set of provisions that require both the borrower and the lender to accrue and report OID so that the lender would include and the borrower would deduct the same amount each year. Until 1996, these rules did not apply to contingent interest, which by definition is of unknown

2. Under the cash method, income generally is reported upon receipt, and expenses generally are deducted only upon actual payment. In contrast, under the accrual method, income generally must be reported prior to receipt if earned earlier, while certain expenses can be deducted prior to payment upon an earlier fixing of the liability.

value at the time the debt is initiated. This enabled some taxpayers to design transactions that avoided the OID rules by making the interest on the instrument technically contingent. Treasury reacted by subjecting contingent interest debt instruments to the OID rules. It made the judgment that it was better to have both the borrower and the lender report a market rate of interest than to report no interest at all. Note that as long as the borrower and the lender accrue the interest the instrument is treated fairly for tax purposes.

The fact that contingent interest agreements have become subject to the OID rules forces both the borrower and the lender to report the contingent interest—which in the case of a SAM depends on the unknown future value of the home—as though the instrument bore a market rate of interest. These rules are tax neutral for most instruments since both the borrower and the lender account for the contingent interest using the same method of accounting. They are not tax neutral, however, in the case of SAMs: only the lender under a SAM is subject to these rules—the borrower is not. Under §1275(b)(2), the borrower cannot deduct the contingent interest until she pays it and this statutory provision overrides the regulations. As a result of the interaction of the contingent interest regulation and this provision, the lender and the borrower are forced on to different methods of accounting creating a huge net tax cost that makes SAMs extremely unattractive (as detailed in CCE) so the OID rules are entirely inappropriate for SAMs. In net present value, then, the lender pays taxes on more interest than the borrower is credited with paying.

## Incoherence

In this section, we examine the tax consequences to both borrower and lender if a SAM is issued as part of a workout or refinancing. Interestingly, once again it appears that the drafters of the relevant rules did not have SAMs in mind. The rules are poorly designed and plagued with uncertainty. This time, however, it is likely (although not certain) that SAMs would be treated *better* for tax purposes than conventional

financing. In our view, the two disparate ways that SAMs are treated depending on the circumstances of their issuance is incoherent and is further evidence that their tax treatment should be rethought.

Consider an individual who takes out at some point in the past a conventional thirty-year mortgage. After ten years, the lender then refinances that mortgage with a new conventional thirty-year mortgage in lesser amount and a SAM for the remainder. In such a debt-for-debt exchange, if there is a “significant modification” of the debt instrument then the exchange is a taxable event for both parties. The issue price of the “new” debt instrument is generally determined under §1274. Under this provision, the issue price would be the lesser of (i) the noncontingent principal and (ii) the appropriately discounted present value of all noncontingent payments. The contingent interest component is ignored, at least initially.

When a SAM is issued as part of a refinancing, the parties are no longer governed by §1.1275-4(b) but rather by §1275-4(c). This regulation was designed for the sale and purchase of property where a portion of the sales price is contingent. Although it works fairly well in most cases in the context of SAMs it operates in a bizarre fashion. Under this regulation we are told to treat all noncontingent payments, both principal and interest, as a single instrument and to take into account contingent payments only if and when they are paid. At that time, the contingent payments are discounted back to the issue date by the AFR and a significant portion of the payment is characterized as principal. This has the effect of converting a significant portion of the contingent interest on the SAM to something else, which we will refer to as additional principal.

It is not entirely clear how either the borrower or the lender should treat the additional principal for tax purposes. CCE argue that the borrower is likely entitled to deduct virtually the entire premium when paid as with an original issuance SAM. However, the tax consequences to the lender are remarkably different from the treatment of the lender in

the case of an original issuance SAM. It is likely that the lender will be able to defer some, perhaps all, of the contingent payment until receipt and possibly beyond. The reason for this is that much of the money received when the SAM is terminated is viewed not as interest but rather as gain from the sale of the old debt instrument. Typically, the gain on an installment sale is spread out over the entire period for which payments are being received. On our facts that would mean that the lender would be entitled to report most or all of gain—not on receipt but over the remaining twenty years of conventional mortgage! We do not believe this to be very sensible.

In sum, the workout scenario should further the impetus for change. First, refinanced SAMs face uncertainty and complexity roadblocks much as original issuance SAMs do in this regard. Moving beyond these similar impediments the refinancing analysis has highlighted an inconsistency in the treatment of the refinanced and original issuance SAM under IRC §453. It is difficult if not impossible to rationalize such disparate treatment. In addition, having provided such more favorable treatment the government must now police the distinction between a refinanced SAM and an original issuance SAM.

## 5. Rectifying Tax Treatment of SAMs

Given the disorderly state of the current rules and the potential social value of SAMs, CCE make the case for a reconsideration of their tax status. They outline three possible methods of rectifying tax treatment of SAMs. While all three of these alternatives would eliminate the current poor treatment of SAMs, we strongly believe that the best of the alternatives is reinstating pre-1996 law to exempt SAMs from contingent interest regulations. That law is easy to implement and can be structured to have no consequences outside this narrow setting. We discuss this preferred method in detail below and then offer two alternatives to this method.

### Reinstate Pre-1996 Law

Treasury could essentially reinstate pre-1996 law by amending the contingent interest regulations to exempt SAMs from them. In so doing, Treasury also would provide a definition of the SAM that would prevent possible abuse of the exemption while expanding the safe harbor to enable SAMs to be developed that would pass the market test.

Since the rules relating to contingent interest under §1.1275-4 were promulgated under authority granted to Treasury, Treasury certainly has the power to create an exception from them if it believed the exception were warranted. We believe one is warranted. Prior to the issuance of these regulations, Treasury was concerned that borrowing transactions were being planned using modest contingencies to backload interest. This would have produced a net tax benefit whenever the lender was in a high bracket and the borrower in a low one. By placing both the borrower and the lender on the accrual method, Treasury hoped to eliminate this unintended benefit while still treating the loan transaction fairly. SAMs, rarely issued during the 1990s, were not the target of these regulations.

Although these regulations work quite well for most loan transactions, they have the unintended effect of singling out original-issuance SAMs for extremely poor tax treatment. As demonstrated above, the reason for this is that the lender under a SAM must accrue the interest whereas the borrower cannot. Under §1275(b)(2), the borrower must remain on the cash method and cannot deduct the contingent interest until she actually pays it. It is this asymmetry that creates the problem.

If Treasury had considered the impact of these regulations on original-issuance SAMs, it might very well have created an exception for them. As a practical matter, this is the only type of debt instrument that is treated poorly. All other debt instruments covered by these regulations under which the interest would be deductible are treated fairly: there is no net tax cost associated with the instrument. Since there is no apparent reason that the use of SAMs should be discouraged, perhaps Treasury should exempt them. If it chose to do so it could craft a very narrow exception and could be justified in exempting them. In fact, we now propose a precise definition of a SAM were Treasury to exempt it from §1.1275-4(b)-(c).

We keep two goals in mind in drafting the definition. First, it must be narrow enough to ensure that instruments used for purposes other than residential home purchases are clearly excluded. Second, it must enable superior SAMs to be developed that better mediate gains from trade, such as the SAMANTHA of §2. We propose the following definition:

1. Both the borrower and the lender intend no more than a debtor-creditor relationship.
2. The borrower is an individual whose principal residence secures the SAM.

3. The borrower and the lender are unrelated (or, alternatively, the lender is a financial institution).
4. The borrower is solely responsible for taxes, insurance, and other charges relating to ownership of the property. The borrower can sell, transfer, or improve the residence without the consent of the lender.
5. All or part of the interest on the SAM is determined by the appreciation of or by the value of the underlying residence.
6. In all events, the borrower is responsible for the full amount of the principal of the SAM.

As noted above the final requirement rules out the simple shared-equity rate mechanism detailed in CCPT, in which a decline in house prices can reduce indebtedness below the original loan value. While it would enhance gains from trade to allow for sharing of losses, constraining such sharing would be of little consequence from a market perspective. Moreover, the impact of this restriction is further diminished in cases in which the SAM is issued alongside a standard interest-bearing mortgage, in which case the interest on this mortgage would further limit the otherwise restrictive clause on minimum repayments.

In the workout context, exemption from the §1.1275-4 (both (b) and (c)) regulations would have the additional advantage of removing the uncertainty over the homeowner's deductibility of the principal portion of the contingent payment. The §1.1275-4 exemption for workout SAMs would remove some uncertainty; it also would create a potential and seemingly unjustified deferral beyond the payment date. Finally, if IRC §453 does not apply CCE point out a potential adverse consequence in that the lender might have to report an inflated amount of gain at the time of the exchange itself. A further regulatory clarification regarding the lender's amount realized in the workout scenario therefore might be considered if dealers are an integral

part of the market. For instance, payments on the debt instrument might be discounted at a rate in excess of the AFR (perhaps the fixed interest rate on the original conventional loan or the comparable current fixed rate for a conventional mortgage).

Although reinstating pre-1996 law is our preferred policy response, we briefly outline two alternative methods for improving the tax treatment of SAMs. We also outline their drawbacks relative to our proposed policy response. CCE conduct a more thorough comparison of these alternative policies

### Allow the Borrower to Accrue

Congress could repeal §1275(b)(2). This would have the effect of requiring both the borrower and the lender under a SAM to accrue the contingent interest during the term of instrument. This rule would put both borrower and lender on the same accounting method and would therefore eliminate the disadvantageous treatment the original-issuance SAM receives under current law. One appealing aspect of this approach is that it treats all borrowers, including homeowners, in the same way. Nevertheless, for three reasons we do not find this approach as appealing as reinstating the pre-1996 law: (1) This approach would require legislation. As a practical matter, this could prove to be problematic. (2) We believe that there is something to be said for the simplicity and the familiarity of the cash method of accounting for most individual taxpayers. Most individuals are quite familiar with the current rules and might find the deductibility of interest that will not be paid for several years as strange. (3) There could be adverse tax consequences to the borrower at termination if the home has not appreciated in value. In that case, a borrower could end up with a serious liquidity problem, as detailed in CCE.

### Recharacterize SAMs as Equity

Treasury could recharacterize SAMs as equity rather than as debt instruments. There are many attractive aspects of treating the lender's interest in a SAM as an equity interest. At least in the case of the tradi-

tional SAM the borrower has no economic interest in the lender's share of the appreciation. There are, however, potential adverse collateral consequences that must be taken into account, such as the consequences under the Foreign Investment in Real Property Tax Act. In addition, as discussed in CCE, the homeowner could end up reporting phantom gain on sale due to a loss of tax basis in the home on a workout modification. Finally, we must consider the possible impact this alternative might have on the characterization of other instruments. The underlying concern that Treasury might have relates to the impact that characterizing SAMs as equity might have on other transactions. The distinction

between debt and equity has been one of most vexing issues that Treasury has had to deal with since the inception of the income tax. We believe that the principal reason that Treasury has been unwilling to issue rulings on SAMs for the past twenty-five years has little to do with SAMs themselves but, rather, it has to do with the implications that these rulings might have on other transactions. If Treasury were to decide to change its long-standing position and characterize SAMs as equity the implications of this decision could be enormous. For this reason, we strongly doubt that Treasury would choose this alternative even if it were demonstrably superior in the relatively narrow context of the SAM market.

## 6. Questions and Answers

**W**e consider questions relating to how SAM markets would impact households, which investors would be interested in SAM-backed securities, and how to ensure that the market takes off, if not in time to help resolve the subprime crisis then at least in time to soften the affordability crisis.

### SAMs and Household Behavior

#### Are basic SAMs and SAMANTHAs too complex for households in the United States?

Unlike option ARMs, which can be highly complex instruments, the basic SAMs and SAMANTHAs introduced above are extremely simple and can be fully explained in two simple Internet screens. Indeed, the pattern of the NYU/Greenfield survey responses reported in §3 appears to be consistent with people understanding at least the simplest SAMs and SAMANTHAs. These mortgages were designed to be of most interest to younger liquidity-constrained renters facing either a pressing need to move (a new child, for example) or expecting improved circumstances in the near future. These were precisely the groups who indicated highest levels of interest.

As noted below, it may be appropriate to provide tests of comprehension to all who wish to use financial products, including standard mortgages. There is no reason to single out SAMs in this regard.

#### But what about more complicated variations on the theme that would be introduced over time?

As noted above, with regard to more-intricate instruments in which borrower understanding cannot be taken for granted a test of understanding should be considered. Only those who can demonstrate that they understand the terms of new mortgages would be entitled to borrow funds with them. This would place the onus where it belongs: with lenders to educate borrowers, with borrowers to understand

their choices, with regulators to ensure there is no fraud in the testing process, and with educators and legislators to ensure that Americans are sufficiently numerate. Standardized testing for various new borrowing instruments would be beneficial. They would stimulate education and testing industries that derive revenues and reputations from teaching consumers and administering tests. Moreover, reputational players have good reason to approve since there is growing evidence that informed customers are more satisfied and therefore more likely to contribute positive word of mouth. By making such testing a requirement, one would be constraining players who are not interested in their long-run reputations. That would benefit those interested in long-run market development.

#### Which borrowers would embrace this form of finance?

The NYU/Greenfield survey evidence suggests that those who are not in a good financial position to take big risks in pursuit of big rewards—because they cannot afford to suffer the potential losses—would be very interested in using SAMs. This is particularly the case for those seeking to transition to homeownership. In fact, SAMs are designed in large part to smooth out the dramatic transition from rental to ownership and other such transitions throughout the life cycle. In many cases, as income rises later in the life cycle borrowers would choose to pay these mortgages off. Indeed the NYU/Greenfield survey produced evidence that most potential borrowers understand the SAM as a form of bridge finance that they would try hard to pay off in the relatively short term.

#### If families are not the full residual claimants on their houses, will they maintain and improve them?

In technical terms, SAM contracts can provide full equity credit to those who make large discrete property improvements whose incremental value can be

readily assessed. There will be implicit sharing of equity by those who make frequent small upgrades to their property, however. This may impact the clientele for the SAM, with ardent do-it-yourselfers and those for whom the SAM excessively dilutes their concept of ownership facing smaller incentives to use this form of finance. Yet this is not a first-order effect.

### **Would use of SAMs lead to a reduction in consumption during retirement because of a decline in individual gains from appreciation?**

The idea that SAMs would result in reduced consumption in retirement is based on two key premises, both of them highly questionable. First, it requires that many owners choose to retain SAMs late in the life cycle rather than paying them off. Yet the survey evidence to date suggests that the most likely scenario is that households would use SAMs early in the life cycle, moving toward full ownership late in the life cycle by paying off all mortgages, including SAMs. Second, it requires that retirees today are making effective use of their housing equity later in life. While Walker (2004) finds evidence of reduced equity associated with high medical expenses among the very elderly, Venti and Wise (1989) point out that few elderly homeowners sell their homes. Of those that do, as many move to more-valuable as less-valuable homes. Moreover, as Davidoff (2006) points out, most retirees remain reluctant to borrow against their homes, instead taking money out of them indirectly by putting off repairs and maintenance, effectively wasting the asset. Surveying the scene more broadly, Ameriks, Caplin, Laufer, and van Nieuwerburgh (2007, 2008) point out systemic problems with current instruments for deployment of retirement wealth and point to the burgeoning efforts to produce financial options that are more suitable. Given this, well-designed SAMs are more likely to be part of the solution than part of the problem when it comes to financing spending in retirement.

### **Why should we allow households to use SAMs when their impact is so highly uncertain? Haven't we learned that financial**

### **innovation is bad?**

SAM markets, which offer large potential gains from trade, were banned by chance and not by design. While supporters of the status quo can always run arguments to prevent change, such appeals ring particularly hollow now. In our view, any who favor continuance of the current ban have the responsibility to provide evidence that markets in housing equity would increase risks to the economic system and to individual well-being above the current level. Our view, elaborated above, is that the opposite is true and that the dangers associated with the current market are far greater than those associated with equity markets, which is why we are in favor of sweeping away artificial barriers. That said, how best to guide the markets remains of crucial importance, and there are good arguments against a total free-for-all. But there is none that we can imagine for a sight-unseen ban.

### **Would use of SAMs encourage people to buy more-expensive homes than they otherwise would have, thus getting in over their heads?**

It is true that SAMs improve affordability. We regard that as providing a much needed counterweight to what will otherwise be a collapse in affordability as lenders recoil from high-risk mortgages. In practical terms, the most likely alternative options for maintaining affordability are either to massively mortgage our childrens' futures by supporting non-economic loan issuance by Fannie Mae and Freddie Mac or to try to restart the market in option ARMs, which is the paradigmatic debt solution to the need to expand affordability. We would challenge those who argue against facilitating SAM markets to explain why these alternatives are superior. We can see no such arguments.

### **Would use of SAMs so expand demand for housing that house prices would rise, offsetting any improvement in affordability?**

Right now, anything that prevents a collapse in house prices would be highly welcome. However, the idea that this form of mortgage would radically boost house prices seems fanciful at this stage since investors are not at all enamored of U.S. housing

returns. Moreover, the largest effect would be on first-time buyers, making it extremely unlikely that SAMs would change the entire structure of house prices in the foreseeable future.

### **Why not just promote other policy changes, such as improvements in the treatment of rental housing or grants to first-time homebuyers?**

We believe that there may be grounds for a broad rethink of U.S. housing policy. The point about facilitating the SAM market is that it is complementary to almost any other positive change that might be contemplated. It is also particularly simple to carry out if agreement is reached. But we would be delighted to see one thousand other reform flowers bloom.

## **SAM Securities**

### **Who would package SAM-backed securities?**

Any number of financial intermediaries would be interested in packaging SAM securities and creating distributable financial instruments. The role is similar to that played in the debt mortgage markets. The principal concerns would center on changes in valuation and pricing while the intermediary holds the instruments on its books during the packaging process. This risk is higher for a levered equity instrument than for a debt mortgage so we would anticipate the transaction cost for the equity products to be higher than for debt mortgage products. The extra return should adequately compensate for the risk and thus encourage active participation.

### **What role should Fannie Mae and Freddie Mac (the Agencies) play?**

The Agencies play a critical role in the mortgage markets and would continue to do so where SAM securities are present. The debt mortgage remains essential to the overall financing and Agencies would need to assess and implement mechanisms for coexistence of the debt mortgage and the SAM. Agencies would not be required to provide additional financial guarantees or credit support to aid the SAM securities. If SAM securities increase

homeownership, as the authors hope, the Agencies are expected to assist an increased numbers of borrowers.

### **In the long run, which investors would invest in SAM-backed securities?**

In the long run, investors of many types would be expected to participate in the market for these SAM-backed securities, comprising individual SAMs packaged together. Such securitizations would create investor properties for the mass market. Interested investors would demand high-quality research in returns on residential real estate and would therefore be aware of the risks they were taking. Included among investors would ideally be institutional investors attracted to diversification properties of residential real estate, builders looking to signal and to financially benefit from high-value construction, companies looking to hedge future housing costs, and parents looking to provide their children with a hedge against increases in housing costs. In particular, CCPT analyze potential investor interest in simple SAM-backed securities from the perspective of the institutional investor interested in a widely diversified portfolio of assets. They show that they would earn a significant place in such a portfolio due to their risk-return characteristics. The fact that SAM markets meet common interests of borrowers and of investors indicates that their economic basis is deep and fundamental. That is why they are essentially inevitable additions to the marketplace in the long run.

### **How Quickly Can the Markets Take Off?**

#### **Are there any regulations other than the tax rules that need to be changed in order for the market to take off?**

The United States has an unwieldy and fragmented system of regulation that results in many good instruments being effectively banned from the market while poor instruments slip under the radar. Many of the current rules are ill adapted to the SAM market; there is much “minesweeping” to be done before these instruments can become standard. In fact, SAMs would be outright banned in New York for

reasons that appear completely archaic. The usury laws also would need to be adjusted. If the house values appreciated significantly sore winners would surely be tempted to file lawsuits claiming the SAM was usurious and unfair.

**Although investors may be willing to invest in housing in the future, is there any reason to think that they are in a rush to do so today?**

Absolutely not. There is currently great pessimism about residential real estate returns. Moreover, investors will need to be convinced of the value of such a novel set of investments. While discussions with representative institutional investors suggest significant interest in this class of investment products over the long term we expect the marketing and adoption process to take some time as has been true historically for most investment products. Pioneer investors in such a new asset class will require a more granular analysis of potential SAM investments including their risk, return, correlation, and liquidity properties as applied to the specific investment products brought to market. A factor that will slow down acceptance is that detailed understanding of housing returns, essential to investor education, remains elusive. Increased basic research is therefore a necessity. The fact that rich development of SAM markets rests on a deep appreciation of housing returns is all to the good since lack of such understanding underlies the painfully slow unwinding of the current default crisis.

**What lessons can we draw from other countries' experiences with SAM markets?**

It has been traditional for other countries to look to the United States for leadership in housing finance institutions, yet the groundwork for SAM markets is at present more firmly in position in Australia and the United Kingdom than in the United States. Australia has been particularly diligent in clearing

away regulatory hurdles and opening the door to experimentation. Although investors in that market are actively engaged in due diligence on the new asset class, we expect large-scale market launch to be delayed until the current liquidity crisis has softened. As far as the United States is concerned this presents an opportunity to catch up in the development of market infrastructure. In fact, it is possible that the United States will be the first to develop large-scale SAM markets, given the overhang of mortgages in need of renegotiation.

**Can introduction of SAMs happen in time to resolve the current subprime crisis?**

It depends how long the crisis lasts. Given that return properties of SAM securities are as yet little understood, it is unlikely that current market participants would use them in the short run. Yet if the subprime crisis drags on, there will be more and more interest in this form of renegotiation and more and more need for an understanding of the circumstances in which it makes sense for investors.

**Can introduction of SAMs happen in time to soften the impending lockout crisis?**

Absolutely, provided we do not waste the current crisis. The first necessary step would be to provide potential market participants with immediate assurance that ill-considered fiscal and regulatory barriers to SAM markets would be removed. With this there would follow an accelerated period of research into properties of housing returns and of concomitant investor and borrower education. Yet it might take a considerable period of experimentation for the market to take off even if these steps were taken. (Jones and Grebler 1961 detail delays in the development of the secondary mortgage market.) Our confidence in the potential of SAM markets to soften the lockout crisis rests on a belief not that market take-off will be rapid, but rather that the crisis will be profound and long lasting in the absence of these markets.

## 7. Concluding Remarks

In light of the current mortgage crisis, there is increased interest in innovative SAM markets. Unfortunately, current tax rules make it essentially impossible to develop SAM markets in the United States. We propose very limited regulatory changes that would liberate SAM markets. Although we can offer no guarantees as to the speed with which the markets would take off we are confident on one score: absent some such change in the tax rules the lockout crisis will be severe and we will remain vulnerable to the debt-driven cycle of crises.

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