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Alternative mortgage contracts and affordability- overview by Mark J. Garmaise

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A B S T R A C T

This paper provides an overview of alternative mortgage designs and discusses their potential role in alleviating problems of housing affordability. Alternative mortgages with backloaded payments were popular in the pre-crisis years and, from a theoretical perspective, they should have served to ease borrower constraints and to facilitate home purchases. There is some evidence that alternative mortgages perform this function for young, highly-educated borrowers. It also appears that alternative mortgages served as the vehicle for some speculative housing investments pre-2008, but it has not been compellingly demonstrated that they exacerbated the crisis.

In this paper, I discuss the potential role of alternative and innovative mortgage designs in alleviating problems of housing affordability. For the purposes of this paper, I focus on alternative designs that shift the burden of borrower payments to later periods. That is, I consider backloaded payment mortgage contracts such as interest only (IO), payment option mortgages that allow for negative amortization, and teaser mortgages. I review the theoretical arguments and empirical evidence for whether these contracts can help borrowers purchase their own houses, and the paper considers some of the open questions still standing under the current state of research. I also explore some of the potential policy implications arising from this academic literature.

1. Background

Alternative mortgages first came to prominence in the years preceding the Great Recession of 2008. Alternative mortgages experienced a dramatic surge in their popularity starting in 2002–2003 and remained in quite common use until 2007, as shown in Fig. 1. They were particularly prevalent in the booming housing markets in Arizona, California, Florida and Nevada (Fig. 2). The rapid growth and subsequent quick decline of the alternative mortgage market are both striking.

The typical alternative mortgage borrower had a fairly high credit score (Fig. 3), though there was some heterogeneity in the class of these borrowers, and a non-trivial fraction had credit scores below 660 (Fig. 4). Without conditioning on borrower or loan characteristics, default rates for alternative mortgages generally tracked those for other mortgages found in private-label securitizations, though there is some indicative evidence of relatively better performance of alternative mortgages in 2002–2003 and relatively worse performance in 2006–2007 (Fig. 5). I now turn to the question of the part that alternative mortgages can play in broadening access to the housing market.

2. Theory

From a theoretical standpoint, it seems clear that alternative mortgages can aid in addressing housing affordability. Introducing innovative mortgages expands the set of contracts, allowing lenders and borrowers to come to a richer set of agreements that suit them both. Alternative mortgages should thereby serve to ease borrower constraints and facilitate home purchases by buyers without sufficient ready cash.

Beyond this simple and compelling intuition, recent theoretical work has shown that alternative mortgages have many key features that are especially designed to aid constrained borrowers. Piskorski and Tchistyi (2010) find that a mortgage form very much like an option ARM (adjustable rate mortgage) with associated credit line is actually the optimal security if households wish to buy large houses and face income variability. The option to make different payments at different times gives constrained borrowers much needed flexibility. Piskorski and Tchistyi (2011) show that backloaded mortgage payment structures for riskier borrowers can be optimal when expected house price and income growth is high.

The attractiveness of alternative mortgages such as IO in the presence of expected house price appreciation is also a theme of LaCour-Little and Yang (2010) and Brueckner et al. (2016). When house prices are expected to rise, IO contracts enable borrowers to afford larger houses and there is relatively little default risk. Chiang and Sa-Aadu (2014) argue

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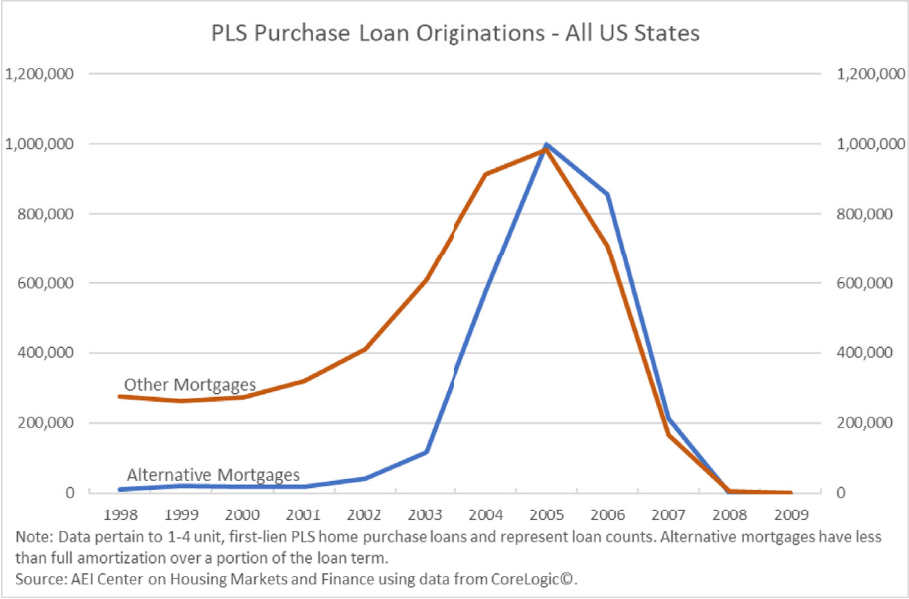

Fig. 1. Private-label securitization (PLS) Loan originations- all US States.

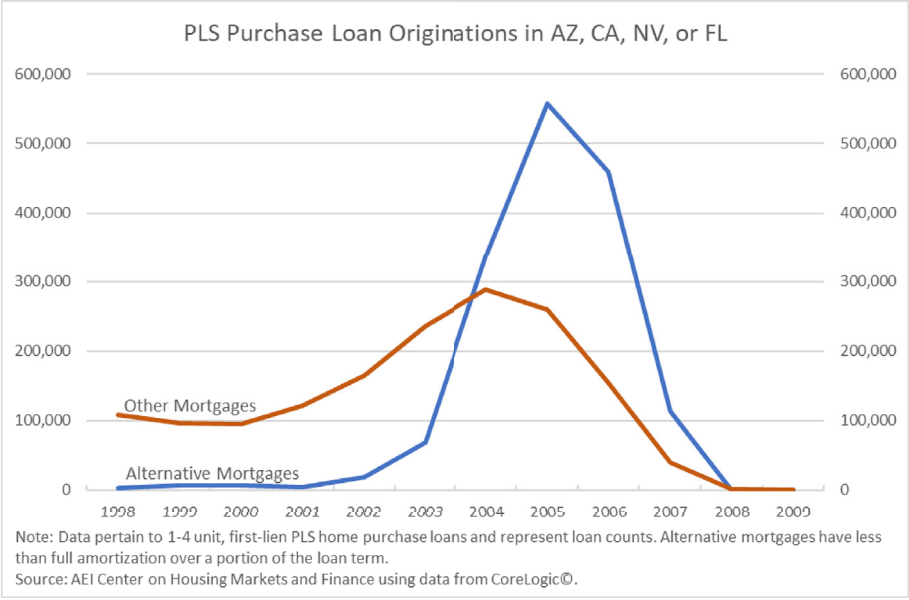

Fig. 2. Private-label securitization (PLS) loan originations- AZ, CA, NV, or FL

that alternative mortgages are useful when borrowers are highly likely to move.

Especially relevant to our question is the work of Chambers et al. (2009) who show that backloaded mortgages are particularly helpful in increasing the homeownership rates of low-income individuals. Alternative mortgages are less attractive to high-income individuals who do not experience the same tight financial constraints. It is fair to say that there is almost a theoretical consensus that alternative mortgages are a useful instrument in addressing housing affordability.

3. Empirics

In this section, I consider the empirical evidence on alternative mortgages. I begin with some of the concerns raised about innovative mortgage contracts and turn later to findings in support of their use.

3.1. Do alternative mortgage contracts cause boom and bust cycles in housing?

The first question is whether the presence of alternative mortgages increases house price volatility. In particular, some observers have suggested that these mortgages played a role in generating the U.S. housing crisis leading to the Great Recession.

There is agreement that the use of alternative mortgages in the U.S. was generally correlated with the pre-crisis boom and post-crisis crash in housing prices (Amromin et al., 2018). That is, the markets that experienced the greatest boom and bust cycles were also usually the markets in which alternative mortgages were most popular. This raises the obvious question of causality: did the presence of alternative mortgages lead to greater house price volatility or were borrowers in booming markets forced to use alternative mortgages in order to afford newly expensive

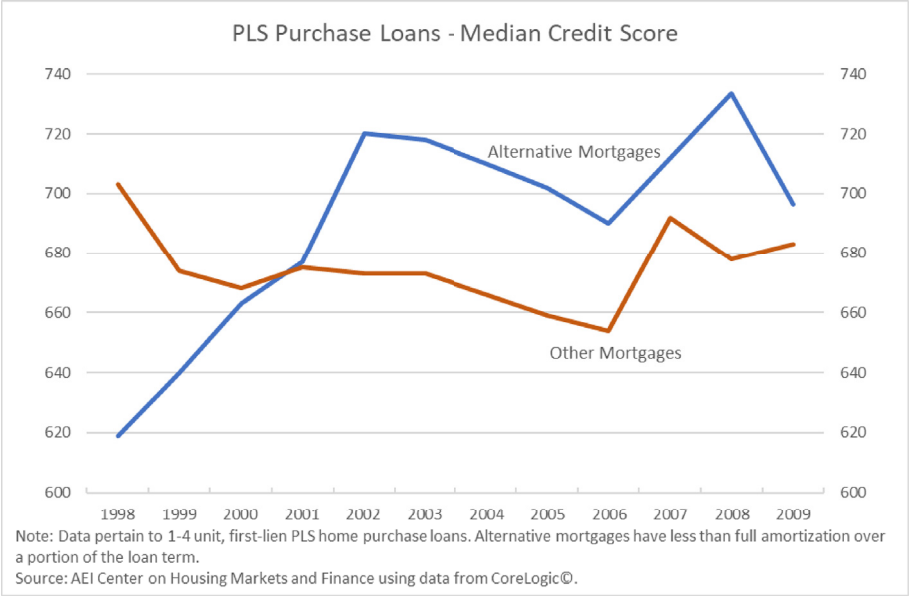

Fig. 3. Private-label securitization (PLS) purchase loans – median credit score.

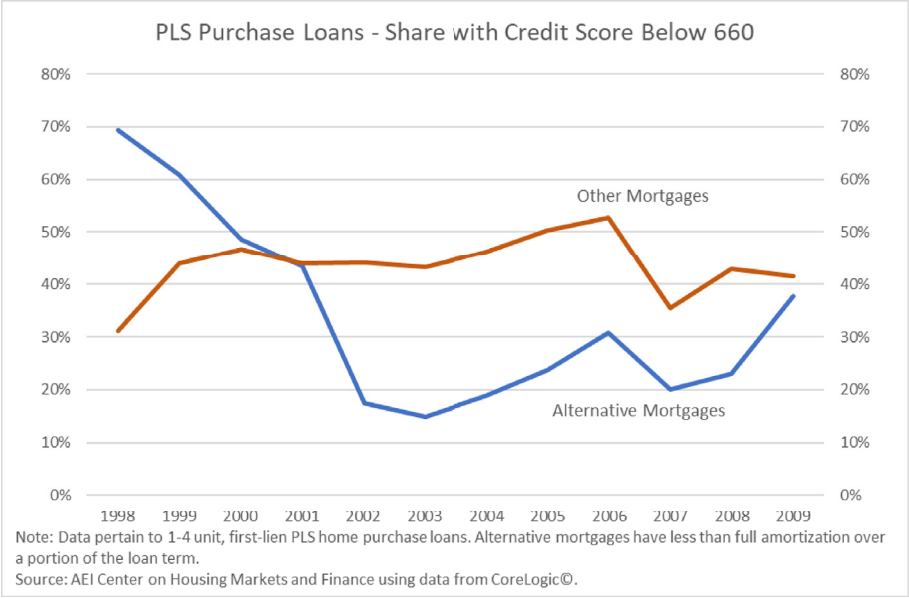

Fig. 4. Private-label securitization (PLS) purchase loans – share with credit score below 660.

homes?

One way to analyze this question is to consider the issue of timing: did the surge in alternative mortgage use pre- or post-date the increase in house prices? There is not agreement on this topic. Barlevy and Fisher (2011) find that the heightened origination of IO mortgages typically came before future house price appreciation and did not follow it. Bäckman and Lutz (2018) argue that in Denmark the introduction of IO loans caused a housing price boom (and increase in transactions) and subsequent bust. In support of the contrasting timing view, however, Bäckman and Lutz also report that IO loans were most popular in areas that had previously experienced high housing price levels. This second result in Bäckman and Lutz is consistent with Brueckner et al. (2016) who show that alternative mortgage use follows appreciation in house prices. Dokko et al. (2015), using break-point methodology, also find that increased use of alternative mortgages followed price increases. These contrasting results may be interpreted as evidence that causality perhaps functions in both directions: IO mortgages are more attractive after house prices increase and the availability of IO mortgages may lead to yet higher prices.

Some informative evidence on the role of alternative mortgages in causing the housing crisis comes from Corbae and Quintin (2010, 2015) who argue that the use of alternative mortgages generated a large fraction of the foreclosure increase observed during the downturn. This arose because riskier households were able to receive mortgages and they accumulate equity more slowly. The main contribution of alternative mortgages to foreclosure, however, was due to their lower down payments, not the delayed amortization or backloading.

Thus, even if alternative mortgages cause a more pronounced boom-

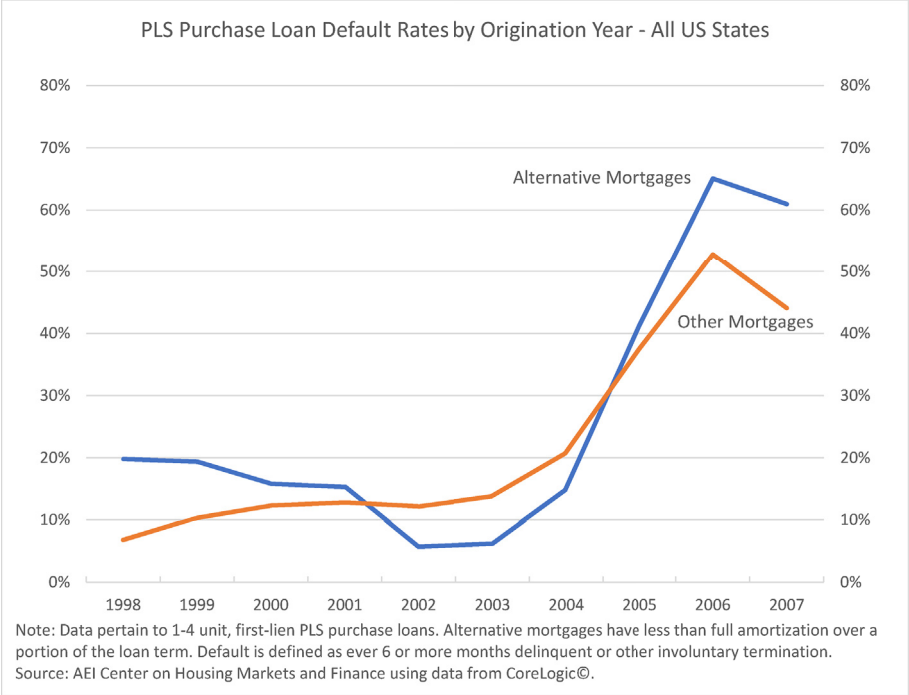

Fig. 5. Private-label securitization (PLS) purchase loans- default rates by origination year.

bust housing price cycle, this seems like a feature of any financial innovation allowing lower income households to buy homes using more leverage. Assessing the trade-off between greater housing accessibility and higher price volatility is not straightforward and would require a sophisticated general equilibrium model. The benefits and costs are likely to be borne by different parties and may depend on individual tastes for homeownership and aversions to price fluctuations, making this a difficult political calculus.

3.2. Do alternative mortgage contracts encourage speculation?

From a policy perspective, a less complicated question is whether alternative mortgages lead to speculative investment in housing; speculation is clearly unattractive to regulators. Alternative mortgages did experience higher default rates when controlling for observable borrower characteristics (e.g. Amromin et al., 2018; Brueckner et al., 2016; Garmaise, 2013), and these high default rates can be associated with speculative investment in housing. Default often leads to foreclosure with negative externalities for other homeowners in the neighborhood (Campbell et al., 2011).

Even if alternative mortgages served as the vehicle for speculation, that does not imply that they encouraged speculation. One view of this distinction is provided by Barlevy and Fisher (2011) who make the provocative argument that IO mortgages are attractive to both borrowers and lenders in bubbles and not otherwise. Nonetheless, Barlevy and Fisher (2011) argue that alternative mortgages do not cause bubbles and may mitigate them; the use of IOs is simply associated with bubbles. A second view is presented in Garmaise (2013) who finds that offering alternative mortgages leads to very negative selection effects as high risk borrowers are drawn to these instruments. If alternative mortgages were not offered at all, however, it is possible that high risk borrowers would simply pursue other forms of mortgage finance. It is clear that high risk borrowers made use of alternative mortgages during the pre-crisis years. What is not clear is whether the existence of these mortgages exacerbated risk taking overall.

Taken together, these results do indicate that alternative mortgages may benefit from greater bank and regulatory scrutiny. It is possible that both banks and regulators can learn from the excesses of the crisis to minimize selection issues arising from offering these loans.[1] Indeed, Cocco (2013) argues that a similar process occurred in the U.K. after the year 2000; after an initial period of potentially inappropriate use of alternative mortgages, better disclosure and increased lender legal liability have led to an ordered and well-functioning market in these instruments.

3.3. Are alternative mortgage too complicated for borrowers?

Financial illiteracy is severe and common (Lusardi and Mitchell, 2007), and this is especially true for loan contracts (Van Ooijen and Van Rooij 2016). Are alternative mortgages, with potentially misleading low early payments and convoluted overall payment paths, simply too complicated for borrowers?

There is evidence that this concern may be overstated. The main users of these mortgages in the U.S. were high income, had high credit scores and lived in neighborhoods with a high proportion of well-educated residents (Amromin et al., 2018). Alternative mortgage borrowers do not appear to have been particularly poor: average loan sizes were larger than for traditional mortgages (Brueckner et al., 2016). Bäckman and Lutz (2018) find that introduction of IO mortgages may have led to slightly more wealthy buyers in the market- it was not associated with a reduction in the quality of the borrower pool. Somewhat in tension with these results is the finding of Mayer et al. (2009) that teaser rates were most common among subprime borrowers and less common among higher quality Alt-A borrowers.

[1] The Bureau of Consumer Financial Protection in the U.S. has implemented a rather stringent form of regulatory scrutiny though its 2013 Ability-to-Repay rule. Under this regulation, loan contracts defined to be Qualified Mortgages offer lenders protection from liability from consumer legal complaints, and Qualified Mortgages are generally excluded from offering alternative mortgage features such as IO or negative amortization. Alternative mortgages with these features are now therefore subject to heightened legal risks for lenders. A useful summary of the rule may be found at https://files.consumerfinance.gov/f/201411_cfpb_atr-qm_small-entity-compliance-guide.pdf.

Survey evidence is broadly consistent with these findings, though also a bit mixed. A Netherlands survey finds that households with greater self-assessed financial sophistication are more likely to choose alternative mortgage products (Cox et al., 2015), and a second analysis from the same country shows that borrowers with higher objectively-measured financial literacy are less likely to hold traditional mortgages (Van Ooijen and Van Rooij 2016). By contrast, U.K. survey evidence shows that financial sophistication is associated with reduced use of alternative mortgages, while myopia is associated with increased use (Gathergood and Weber, 2015). What can explain the difference? There are special tax benefits of alternative mortgages in the Netherlands that may appeal to sophisticated borrowers.

It is plainly undesirable for alternative mortgages to be used to exploit the unsophisticated. It would be useful to have more clarity on whether they were, as the papers described above do not convey an unambiguous message, though the weight of the evidence suggests that they likely were not. Here again the response to the U.K. regulatory reform described by Cocco (2013) is informative: pre-regulatory intervention alternative mortgages were used by less educated borrowers, while post-intervention they were more popular with more educated borrowers.

One problem that is likely to complicate efforts to assess the severity of this issue is that financial sophistication and wealth are highly correlated and hard to disentangle. As a result, a study that shows that alternative mortgages are used by the wealthy/sophisticated will be interpreted as evidence that these contracts are not an affordability product. A study showing that they are used by the less wealthy/unsophisticated may be interpreted as evidence that alternative mortgages exploit those with less knowledge. Overall, however, it appears that these products can be offered to lower income borrowers without manipulating them, particularly in a context with guidelines on information provision and disclosure.

3.4. Do alternative mortgage address affordability issues?

The previous subsections have considered whether alternative mortgages may have negative effects. What is the evidence on their ability to provide affordability benefits? I will consider two main questions. First, do alternative mortgages improve the allocation of existing housing? Second, do alternative mortgage promote the building of additional housing?

On the first issue of allocation, the primary argument is that the availability of alternative mortgages may improve consumption smoothing. That is, they may facilitate the consumption of larger housing by young and financially constrained borrowers. Presumably this could be accomplished by promoting the sale of large houses by older homeowners who no longer require them to young families with children.

If alternative mortgages fulfill this consumption smoothing function, then their use should be associated with future income gains. Testing this hypothesis is the central focus of Cocco (2013) who finds that borrowers who expected higher and safer incomes were indeed more likely to take out an alternative mortgage. He further shows that these borrowers realized higher income growth after origination. Alternative mortgages thus allow younger borrowers to enjoy larger housing and reduce transaction costs by allowing them to purchase large homes once rather than purchasing a sequence of increasingly bigger homes as their income rises.

The relationship between housing spending and future income is also studied by Gerardi et al. (2010). They show that over time the correlation between these two variables has increased, suggesting improved consumption smoothing. This could arise from greater efficiencies in mortgage markets. Based on the timing of the sharpest increase in the correlation, however, Gerardi et al. (2010) mainly attribute the better functioning of markets to securitization, rather than the use of alternative mortgage products. So, there is some evidence for the consumption smoothing benefits of alternative mortgages, but other aspects of changes in the mortgage markets may be more important.

If alternative mortgages can serve this important consumption smoothing function for young financially-constrained households with bright prospects, why did this market not come to exist in any meaningful form until 2002–2003 and why did it essentially disappear in 2008? For the first question of why alternative mortgages did not emerge until 2002–2003, Barlevy and Fisher's (2011) argument is relevant: IO mortgages may be most attractive to borrowers during housing booms. The dramatic house price increases experienced over the 2002–2007 period may have made the smoothing of housing consumption a first-order issue for young households, thus setting the stage for the spread of financial innovation in the form of alternative mortgages.

The second question about the effective disappearance of alternative mortgages after 2007 is perhaps easier to answer: the housing market collapse led to the almost-complete closure of the private-label securitization market. Highly regulated and standardized government-sponsored enterprise (GSE)-backed mortgages were the principal form of housing finance on offer through the crisis and into the post-crisis years. Alternative mortgages largely disappeared along with many other non-standardized products.[2] It is also possible that alternative mortgages came to be associated for some time in the eyes of lenders with very negative outcomes, though, as I argue above, there is evidence that the performance of alternative mortgages can be ameliorated through careful contract design.

More broadly, the theoretical consumption smoothing benefits from alternative mortgages highlighted above in Section 2 should be the greatest for borrowers with low current incomes and high future incomes. The impact of the affordability crisis on lower-income families receives the most attention. Do low-income individuals commonly have higher future income expectations? Perhaps young people with high education do. Are they the target of affordability programs? For most lower-income families, consumption smoothing seems like less of a first-order issue, though it may be the case that these families face particular difficulties in raising meaningful down payments, and they would certainly benefit from more affordable loan payments.

Some recent innovations in alternative mortgage design such as versions of the Wealth Building Home Loan (WBHL) described by Oliner et al. (2018) and the Fixed-COFI mortgage (Passmore and von Hafften, 2018) may offer more affordable housing finance to lower-income families. Borrowers using these mortgage programs can reduce their cost of financing in part by agreeing either to accept a shorter than 30-year maturity mortgage (for the WHBL) or to limit their refinancing options (for the Fixed-COFI). These trade-offs may be quite sensible for some low-income borrowers.

It is fair to note, however, that for many low-income families the main issue with which they contend is not that they expect high future incomes and need to smooth their housing consumption over time, but rather that housing is too expensive for them generally over the course of their lives.

This highlights the second question: does the availability of alternative mortgages trigger a supply response relevant to low-income families? This could take the form of conversions from rentals to low-cost condominiums or an increase in the building of new low-income targeted housing. I am not aware of empirical work on these questions, but such a response seems somewhat unlikely in supply-constrained coastal cities. A supply response should be more feasible in outlying areas. On the other hand, affordability considerations may not be as serious in those markets.

In my view, evidence documenting the benefits of alternative mortgages for low-income families would be especially useful. This might take the form of results showing that alternative mortgages help low-income borrowers purchase their own housing at a younger age. Even more compelling would evidence of some sort of supply response to the

[2] The general prohibition on alternative mortgage features in Qualified Mortgages has also undoubtedly reduced the popularity of loan contracts with negative amortization or IO provisions.

introduction of alternative mortgages that is relevant to low-income borrowers.

4. Conclusion

Who is most likely to achieve superior housing outcomes as a result of the availability of alternative mortgages? From a theoretical perspective, the greatest benefits should accrue to the highly-educated young who expect to have sharply rising future incomes. Highly-educated borrowers are also most likely to understand these products and, in fact, in markets with appropriate disclosures of risks there is evidence that they are the most likely to use them. In other words, alternative mortgages, when used properly, should be most useful in assisting highly-educated young people to buy larger houses. As for lower-income less-educated households, the causal impact on these borrowers of the availability of alternative mortgages is still unclear, as is the effect of these mortgages on disadvantaged neighborhoods; this issue requires further study. We lack compelling evidence that alternative mortgages can address broader issues of housing affordability for less fortunate Americans.

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