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NeighborWorks® America
Home HeadQuarters, Inc.

Home Value Protection:
Final Report

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Submitted by:

Together with:

REDBRICK
PARTNERS

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Introduction

The following report provides an overview of a Home Value Protection (HVP) product to evaluate the practicality of making such a program more widely available and provide background for anyone considering such a plan. The paper is based largely on the Home Value Protection product established in Syracuse New York in 2002, and a number of the authors of this paper participated in the establishment of the Syracuse Home Value Protection program.

The paper contains four sections:

1- **Investor Outreach**
   This section provides background information about the Syracuse program, the current and potential participants and what roles they might play, a review of a few of the ways such a program could be implemented, and links to various media coverage.

2- **Index Research**
   The Syracuse program measured changes in house values by a real estate index for the area (rather than individual house sale price), and this section evaluates a number of different index methods using four markets historical data to see how well the different indexes would have performed with a HVP product (had it been available).

3- **Capital Requirements & Pricing**
   This section provides a model for estimating the pricing requirements and capital required for a program across multiple markets. While not exhaustive, this approach will provide a useful reference and starting point for anyone evaluating investment in such a program.

4- **Regulatory Environment**
   This section provides information on some of the regulatory entities across the markets used in the analysis. Due to the variations in the way a HVP product could be implemented, regulations could apply in a variety of ways and this section can only offer a starting point for potential investors or participants.

1.0 Investor Outreach

1.1 Home Value Protection- Concept Overview

- Offer new or existing homeowners a product to insure against a decrease in local home prices.
- Opportunity for insurer to pool and diversify risk across regions.
- Potential profitable product offering.
- Potential tool for addressing depressed housing markets.

1.2 Syracuse Program Summary

- Beginning in 2002, a HVP product was offered in Syracuse New York, through a local non-profit, Home Headquarters Inc (HHQ)[1]
- Fee: Homeowner pays a one-time 1.5% fee as a percentage of the value protected.
- Index: Uses a Real Estate Price Index to capture localized trends. Index avoids the need to track individual sale and resale prices and mitigates the impact of property maintenance/upkeep issues.

1.2.1 Syracuse Homeowners/Customers

- 75 homeowners protecting over $5 million in home value.

1.2.2 Syracuse Distributor/Retailer

- Widely credited by Realtors® and local stakeholders as strongly contributing to price appreciation in the Syracuse market.
- Strong interest among lenders, in the financial press, and from other cities.
- Functions independently of the mortgage market.
- More recently, Bank of America, HSBC, and M&T Bank have offered to pay portions of HVP premiums for homeowners who use their mortgage services.

1.2.3 Syracuse Insurer/Risk Holder

- Nonprofit risk holder.
- Mix of public and private investments provide backstop capital beyond the fees paid by homeowners.
- Lender is loss payee but receives no payout after a foreclosure.

1.2.4 Syracuse Government Agency/Non Government Organizations

- $5 Million in HUD funding for program reserves.
- Operated by local non-profit and supported by local government organizations.

1.2.5 Syracuse Example:

- A homeowner has a $100,000 property and purchases HVP.
- Pricing of HVP is 1.5% of purchase value ($1,500).
- 5 years later they sell; the house price index has declined 10%.
- The homeowner receives an insurance payout of $10,000. (10% x $100,000)

[1] With assistance from Syracuse Neighborhood Initiative (SNI), NeighborWorks® America, Yale School of Management, U.S. Department of Housing and Urban Development (HUD), and other local government supporters.

- Had the zip code home price index increased, there would be no payment.
- This payout is not dependent on the purchase or sales price of the home, but rather index based. (It is therefore possible to receive payout along with a profitable sale if the local index has decreased.)

1.3 HVP - Potential Participants

- There are a number of reasons various parties may be interested in participating in the launch of a HVP program in their area. The following sections review the four major roles and the possible benefits to each.

1.3.1 Homeowners/Customers

- National survey suggests a significant proportion of homebuyers might consider buying HVP, despite the newness of the product.
- May be highly leveraged and willing to pay to protect against the risk of housing devaluation.
- Potential customers could range from low-income first-time buyers to very sophisticated, high-end buyers.
- Such insurance reduces likelihood of subsequent mortgage default.
  - If prices appreciate/hold steady → Sell and repay mortgage
  - If prices depreciate → Sell, claim HVP, repay mortgage

1.3.2 Distributor/Retailer

- Transaction services with sales and marketing support. Some degree of coordination with existing, related settlement processes- realtors, settlement agents, etc.
- Possible financing of HVP premium internally or with additional participant.
- Supporting HVP may support CRA Lending efforts.
- Interest from financial services firms in offering such a product to their customers.

1.3.3 Insurer/Risk Holder

- An opportunity exists for an organization to insure the product and capture profitable returns through risk pooling.
- Opportunity to capture portion of these savings as increased profit for insurer.
- The opportunity now also exists to lay off risk through the Chicago Mercantile Exchange's Home Price Futures market

1.3.4 Government Agency/Non Government Organizations

- Many Federal, State, and Local organizations have social mission involving homeownership and may be willing or interested in supporting such a product.
- A number of city governments and non-profits have expressed interest in the Syracuse program and may be receptive to facilitating similar programs.
- Such programs address three hot community development themes: wealth building, urban revitalization, and weak markets.

1.4 Potential Participants- For Profit/Financial Institutions

There are a variety of ways profit-making organizations might want to participate in a Home Value Protection product. Because there are a range of stakeholders in the

industry space and in specific transactions, there exist numerous possible interested parties, and their approach would impact the appeal from other stakeholders.

1.4.1 Large Financial Organizations

- Large Financial entities may be interested in a HVP product as a component of their product offerings to expand the ways they are able to serve their customers.
- Such organizations may be particularly well suited to diversify regional risk by offering the product across different regions, though multi-regional trends would be more difficult to manage through diversification.

1.4.2 Retail Mortgage Companies

- Retail Mortgage companies may be interested in a HVP product as a compliment to their existing mortgage products as a way to expand their product offerings.
- As they are involved in the closing process when properties are bought and sold, retail mortgage companies already have an infrastructure they may be able to leverage in supporting HVP transactions.

1.4.3 Mortgage Insurance Companies

- Mortgage Insurance companies may be interested in a HVP product as a way to expand their existing and related mortgage insurance products. As mortgage insurance covers the risk that the mortgagee defaults, part of that risk is related to the value of the underlying asset. Since HVP is focused on the risk related to the asset itself, by adding HVP to a mortgage insurance product, these companies may be able to offer enhanced products to their customers.
- In a way similar to the Retail Mortgage companies, the Mortgage Insurance industry already participates in the closing process for real estate transactions and could leverage this if it were to participate.

1.4.4 Insurance or Reinsurance Companies

- In a number of ways, HVP has elements in common with insurance products, though it can certainly be implemented in a way that distinguishes it from traditional insurance. Because of the conceptual commonalities, insurance (or re-insurance) companies may be well positioned to diversify and hedge the risk that exists in supporting the required capital for a HVP product.

1.5 Potential Participants - Non Profit/Community Development

1.5.1 National Level Government

- Supporting housing markets and serving homeowners who may be exposed to increased risk, particularly if they represent more vulnerable populations, may be of interest to the Federal Government.
- The US Department of Housing and Urban Development participated in the HVP program in Syracuse New York by providing a grant to support the capital requirements.

1.5.2 Local or State Government

- Beyond the general national perspective, specific local areas may face housing challenges that would make HVP a particularly attractive product. As in the example case of Syracuse New York, local governments (with their non-government partners) can use HVP to assist in depressed areas.

1.5.3 National Associations or Other Non-Profits

- Other groups may represent various interests from community groups to coalitions of the stakeholders described above who may have an interest in HVP products.
- Nonprofits could directly offer an HVP product at the neighborhood or citywide level. These products might be priced below expected costs and use subsidy funding to enhance the attractiveness of the neighborhood to potential homebuyers.

1.6 Outreach Channels

- Because such a product would impact a variety of stakeholders, it would be desirable to communicate the potential program applications in a number of channels:
    - Mortgage Related Publications
    - Business Press
    - Popular media and newspapers

1.7 Business Press and Resources

1.7.1 Business Press and Research Articles

- Money Magazine: Bubble Proof Your Home (March 2004)
  http://www.money.cnn.com/2004/02/20/pf/yourhome/freeintro_real_estate_bubbleproof_0403
- Wall Street Journal: For Some Buyers, a Nice Hedge (Feb 2004)
  http://online.wsj.com/article/0,,SB107576833273118663,00.html (subscription required)
- Forbes Magazine: Price Protect your Home (August 2002)
  http://www.forbes.com/columnists/2002/08/28/0829whynot.html
- Worth Magazine: Safe as Houses (January 2005)
  http://www.worth.com/Editorial/Family-Finances/Risk-Review/Real-Estate-Safe-as-Houses.asp
- Research Paper: Home Equity Insurance: A Pilot Project (May 2003)
  http://papers.ssrn.com/abstract=410141

1.7.2 Related Organizations and URLs

- Syracuse Neighborhood Initiative www.syracusesni.org
- NeighborWorks® America www.nw.org
- Home Headquarters, Syracuse NY www.homehq.org
- Yale School of Management http://icf.som.yale.edu/research/Homeequity.shtml
- Housing Price Hedge Products http://www.hedgestreet.com/hedgelets

2.0 Home Price Index Research

2.1 Summary

A central challenge in the development of an index-based Home Value Protection program is the selection of an appropriate index. A desirable index for an HVP program would cover much (ideally, all) of the losses that homeowners face that are due to forces outside their control. It would also not cover any losses due to forces within the homeowners control (e.g. deferred maintenance to the home, overpaying for the home, etc), so that the total payouts of the HVP program (and therefore the premiums charged to homeowners) were kept at a minimum. Any evaluation of index performance, however, is limited somewhat by the ability to determine what component of any loss a homeowner experienced was due to forces outside of his or her control, especially using summary records of historical home transactions.

This paper presents an analysis of the performance of several home prices indices in predicting the actual losses faced by homeowners, utilizing index histories and repeat sales data for four cities: Buffalo NY, New Haven CT, Los Angeles CA, and Oklahoma City OK. The home price indices tested are the OFHEO MSA-level repeat sales House Price Index (HPI), and median price indices constructed from the repeat sales data.

In general, the OFHEO repeat sales index appeared to provide a serviceable and lower-cost hedge for homeowners in most of the cities, though this index does have limitations. Median prices indices generally provided slightly better coverage against losses, but they also had higher payouts overall and therefore would have been more costly to provide. A significant exception occurred in Buffalo, where neither citywide median price indices nor the OFHEO index provided good coverage by any measure of performance. A ZIP code median price index created for Buffalo performed better, but was also significantly more costly.

No one of the price indices tested emerged as a clearly superior option for all situations. This result is somewhat challenging for efforts to establish a multiple city program based on the same index. A program based on the OFHEO index would provide a measurable level of protection for customers in many situations, and would be relatively inexpensive to provide. However, it would be very important for homeowners to be aware that there are many components of house price risk which the OFHEO index simply does not cover. Indices that measure house price changes in smaller geographic areas, if their efficiency can be improved, would be an important tool for HVP programs. The FiServ/CSW repeat sales index may be one such possibility, and should be tested.

Index Evaluation

Effectiveness: Coverage of losses experienced (HVP Payout to those with losses / Actual Losses)

Efficiency: Portion of Payouts going to people actually experiencing a loss. (HVP Payout to those with losses / All Payouts)

2.2 Introduction

Home Value Protection (HVP) programs offer the promise of helping low- and moderate-income homeowners to protect their assets in the event of home price declines. Depending on how the protection is provided, HVP may also help to attract and retain homeowners in neighborhoods at any income level where there is a concern that property values might decline.

Early HVP programs (called "equity assurance") in Chicago and elsewhere provided a guarantee that homeowners would be able to resell their home for at least as much as they bought it for, or they would be reimbursed the difference. This approach required substantial and costly mechanisms to ensure that homeowners adequately maintained their home, did not overpay for it upon purchase, and obtained the maximum possible sales price in the market.

Shiller and Weiss proposed the use of home price indices in HVP programs as a way of eliminating this moral hazard problem.[2] With this approach, homeowners are paid based on the decline in a home price index. For example, in the Syracuse HVP program, a homeowner specifies the value of their home they wish to protect and pays a one-time premium as a percentage of that value. At the time the home is resold, if there has been a decline in the home price index, the HVP program pays the homeowner the protected value of their home times the decline in the home price index. If a homeowner protects a $100,000 home, and at the time of resale, the price index has dropped by 10%, HVP would pay 10% of $100,000 or $10,000. Since the payout is not dependent on the actual resale price of the home, no moral hazard problem exists. The homeowner has all the same incentives they would without HVP to maintain the home and sell it for the best price possible. Even if they sell the home at a gain, they may still receive a payout from HVP if the index has gone down.

A central challenge in the development of index-based Home Value Protection program is the selection of an appropriate index. A desirable index for an HVP program would cover much (ideally, all) of the losses that homeowners face that are due to forces outside their control. It would also not cover any losses due to forces within the homeowners control (e.g. deferred maintenance to the home, overpaying for the home, etc), so that the total payouts of the HVP program (and therefore the premiums charged to homeowners) were kept at a minimum. Any evaluation of index performance, however, is somewhat limited by the ability to determine what component of any loss a homeowner experienced was due to forces outside of his or her control, especially using summary records of historical home transactions.

This paper presents an analysis of the performance of several home prices indices in predicting the actual losses faced by homeowners, utilizing index histories and repeat sales data for four cities: Buffalo NY, New Haven CT, Los Angeles CA, and Oklahoma City OK. The home price indices tested are the OFHEO MSA-level repeat sales House Price Index (HPI), and median price indices constructed from the repeat sales data.

[2] Shiller, Robert, and Alan Weiss (1998). Moral Hazard in Home Equity Conversion. Presented at AREUEA–ASSA session, January 4, 1998, Chicago Illinois.

2.3 Methodology

2.3.1 Obtaining and Creating Indices for Testing

We tested the following indices:

- **OFHEO- MSA**: The Office of Federal Housing Enterprise Oversight (OFHEO) produces a repeat sales House Price Index (HPI) for Metropolitan Statistical Areas (MSA). Multiple sales of the same property are loaded into a regression analysis that estimates the growth in house prices by quarter. The OFHEO index is an attractive candidate for HVP programs since it is produced by a federal government entity, reducing the cost of index provision while enhancing the credibility of the program. OFHEO has a detailed paper on its website discussing the methodology by which its index is produced (www.ofheo.gov).
- **Median Price - City Wide** (Rolling, Quarterly): We also obtained actual home sales data for the study cities (Buffalo, New Haven, Los Angeles, and Oklahoma City) and used this data to create simple median price indices measuring the citywide change in prices (as opposed to MSA-wide for OFHEO). One median price index simply took the median of all homes sold in each quarter – we refer to this as the quarterly median price index. Another median price index we created took the median, each month, of the previous 12 months of sales. We refer to this index as the rolling annual median index.
- **Median Price - Zip Code**: In the case of Buffalo, we also created median price indices for each ZIP code in the city, providing a greater level of geographic refinement.

Data for the creation of the median price indices came from different sources in each city:

- In Oklahoma City, we used single sales transactions data provided by the Oklahoma County Assessor's Office.
- In Buffalo, we used repeat sales transactions data compiled by the City of Buffalo for us.
- In Los Angeles and New Haven, we used repeat sales data provided by the Mortgage Risk Assessment Corporation (MRAC), a private data provider.

In every case but Oklahoma City, the data for creation of the median price indices came from repeat sales data. Generally, data ranged from the mid 1980's to 2004 (2000 for MRAC data). Since many single sales would have occurred in this period without a corresponding resale of the same property, the use of a repeat sales data set to create a median price index reduces the number of observations available compared to what should be available in the future. One would expect this limitation of our analysis to decrease the performance of the median price indices relative to their performance when using a more complete dataset.

In addition to the loss of single sales data, the repeat sales data was not cleaned of records with short holding periods. Homes held for a short time tend to have a higher volatility of return, so including these sales generally reduces the measured performance of price indices. If an HVP program were to exclude payouts to customers with short holding periods (as the Syracuse program does), one might expect the resulting effectiveness and efficiency to be slightly higher.

Repeat sales indices and median price indices represent fundamentally different approaches to measuring price trends. By measuring how the same houses increase or decrease in value over time, the repeat sales index provides a more or less "constant quality" measure of the change in house prices. By contrast, a median price index can be affected by changes in the composition of the homes being sold. For example, a median price index for a city which experiences a wave of construction of new homes that are larger than existing homes would have an upward pressure on the index even if existing homes might not be selling for higher prices. For this reason, repeat sales indices are generally considered a superior measure of home price trends. On the other hand, most repeat sales indices have the issue of revisions to the index. For example, the estimate produced by a repeat sales method for changes in home prices in May will be affected by transactions occurring in June and later months, since homes sold in those months were also being held in May. Together with the earlier purchase data, the repeat sales determines the pace of price change in the period the property was owned, and therefore applies historically. Certain repeat sales indices are subject to larger revisions problems, which could create logistical complications for their use in HVP programs, though terms could be included in an HVP program to limit the impact of revisions on actual payouts.

One promising set of indices that were not tested are the FiServ/CSW ZIP code indices. These indices, originally designed by Case Shiller Weiss, are said to have fewer revisions issues than other indices (Robert Shiller, personal communication). We might expect them to have greater sensitivity to localized price declines than the OFHEO index while being more stable than median price indices for small areas.

2.3.2 Calculation of payouts vs. actual losses

For each city we obtained or assembled a set of repeat sales data (i.e. that shows paired sales transactions for properties in the dataset). Using this repeat sales data the actual gain or loss experienced by the homeowner is calculated. Then, by looking up the value of a home price index for each of the two sale dates, we can calculate the gain or loss on the home predicted by that index. We assume that homeowners take out an HVP policy for the initial purchase price of the home, so that the payout the HVP program makes to the homeowner is:

(Percentage decline in the index) x (initial purchase price of house)

2.3.3 Evaluation of index performance

We evaluated the performance of alternative house price indices using several measures of efficacy. These measures were developed by the Yale / Neighborhood Reinvestment team; below we quote from their work to define them:[3]

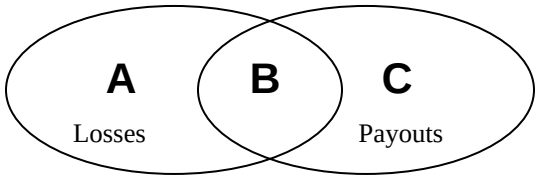
> The first measure of index performance is coverage effectiveness. This measures what fraction of a loss is covered on average (i.e. HVP payout divided by actual loss). Note that in calculating this measure, we do not average a payment of

[3] Report of the Yale/Neighborhood Reinvestment Home Equity Project Group. Yale School of Management / NeighborWorks® America, January 2, 2002.

200% to one homeowner and 0% to another and call this 100% effectiveness. Instead, we take the more conservative approach and only count payments that cover the reported loss.[4]

The counter to effectiveness is efficiency. This measures what fraction of the payouts went to people who lost money on their sales. The efficiency number will understate the true efficiency as there will be people who appeared to make a profit on their sale but in fact this appreciation was due to investment in the home and when corrected for home improvements the person actually lost money.

It will help to illustrate the direct connection between our different measures of performance. Consider the following Venn diagram where A + B represent the total losses experienced by homeowners and B + C represent the total payouts under the program. Thus payoffs in B are the efficient payoffs --- they go to homeowners who have experienced a decline in value.



Effectiveness	= B/(A+B)	Fraction of losses that are covered
Efficiency	= B/(B+C)	Fraction of payoff that go to individuals with losses.
Loss Ratio	= (A+B)/(Purchase Prices)	Fraction of value lost due to decline in real estate values
Payout Ratio	= (B+C)/(Purchase Prices)	Cost of paying claims, without taking account of administration and capital requirements.

Mathematical Identity: Payout Cost = Loss Ratio x Effectiveness / Efficiency
Proof: (B+C)/(Purchase Prices) = (A+B)/(Purchase Prices) * B/(A+B) * (B+C)/B

The loss ratio is not in our control. This is determined by the market. Hence the design of the insurance protection can influence payout costs only through effectiveness and efficiency.

It is tempting to assume that with "perfect" coverage, effectiveness and efficiency would both equal 100%. A=C=0. However, we will always expect some distribution of home values around the index due to differential maintenance and transaction risks (e.g. people overpaying for their home or selling at too low a price). Effectiveness of 100%, in testing against a real world database, would imply that the HVP program is also protecting

[4] The effectiveness measure is weighted by the size of the loss. Thus a 100% coverage on a $10,000 loss and a 50% coverage on a $20,000 loss averages out to a 66.6% effectiveness ($20,000 coverage on $30,000 of losses) not 75%.

people for losses due to forces that were in their own control, so 100% effectiveness should not be a goal.

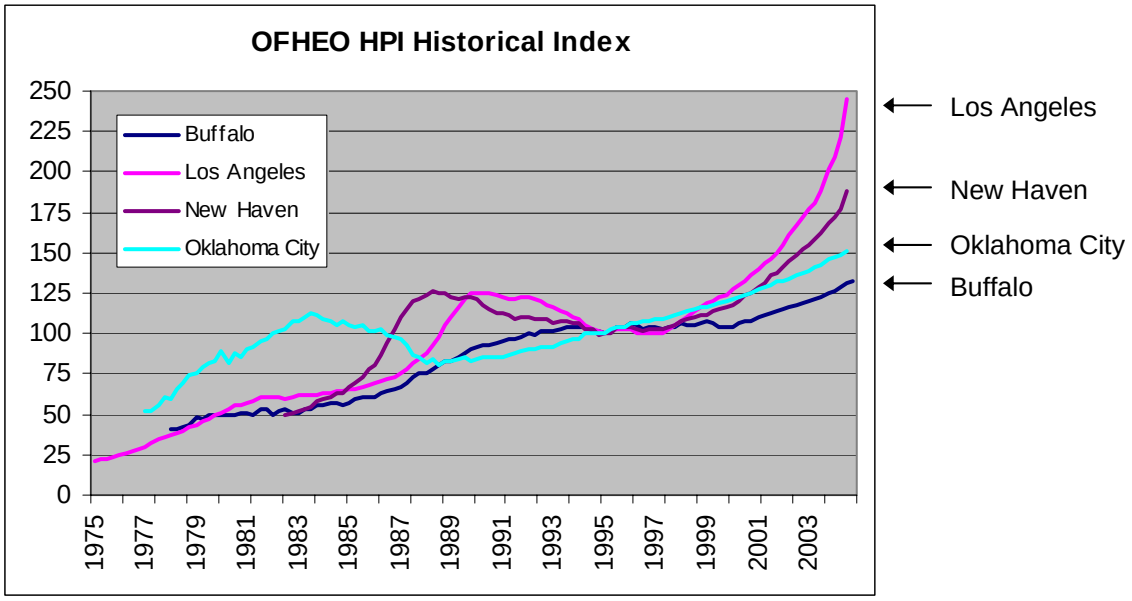
To illustrate this point further, imagine a market that is rising. If the market trend on which we are trying to protect homeowners is rising, we would not necessarily be concerned with effectiveness of 0 – since payouts to people in a rising market are probably for losses that were within their control. Interestingly, our best measure of whether the market trend is rising is the index itself that we are testing.

We therefore added the measure of "downward effectiveness" of the price index. Downward effectiveness is the measure of the effectiveness of the index in covering actual losses, looking only at repeat sales data for periods during which the index was declining. We can similarly calculate index efficiency, loss ratio, and payout ratio conditioned for holding periods when the index was declining. We further include the measure of "crisis effectiveness," which we define as index effectiveness conditioned for holding periods when the index declined by at least 10 percent. This "crisis" measure gives some sense of the performance of HVP in markets experiencing strong declines.

2.4 Discussion of Results

2.4.1 Historical price trends as measured by the alternative indices

All of the cities studied experienced at least some price decline, as measured by their alternative indices. In Los Angeles, a notable decline is observed in the first half of the 1990's. In Oklahoma City, a significant decline occurs in the second half of the 1980's. New Haven experiences a long, gradual decline from the late 1980s through the mid 1990's. Buffalo shows only very slight declines at the MSA level.



It is important to note that in many cities price trend patterns look quite different as the level of geographic analysis changes. Los Angeles (the largest of the cities studied) is the exception. Generally, as one moves to a more detailed level of geographic analysis, the price trend lines become less stable and declines are more frequently observed. Buffalo, where we also examined house price trends at the ZIP code level, is a particularly instructive example. ZIP code level price series are very volatile with a number of ZIP codes experiencing sharp declines, even over periods where the MSA price series is quite stable. Note also, however, that part of this volatility may be due to the greatly reduced number of observations.

In general, these results appear to illustrate a tradeoff that has long been discussed in the design of indices for HVP programs. At broad geographic levels where there is a large number of observations, indices perform quite stably, with the result that they are cheaper to provide (they only generate payouts when there is a strong, broad downwards market trend). At narrower geographic levels, the indices are more volatile. To some extent this volatility reflects actual home price declines that are occurring, so that these indices provide better protection. A case in point is Buffalo, where conventional wisdom and anecdotal evidence holds that many city neighborhoods experienced significant declines, yet the OFHEO MSA index barely declines at all. The tradeoff is that part of the index volatility for smaller geographic areas is also due to the small number of observations, leading to "noise" and increased payouts, even to homeowners who do not actually lose money.

Therefore, we would generally expect broad geographic indices to have higher levels of efficiency and lower levels of effectiveness compared to narrow geographic indices. This result becomes very clear once we look at performance numbers for the different indices.

2.4.2 Performance of alternative indices

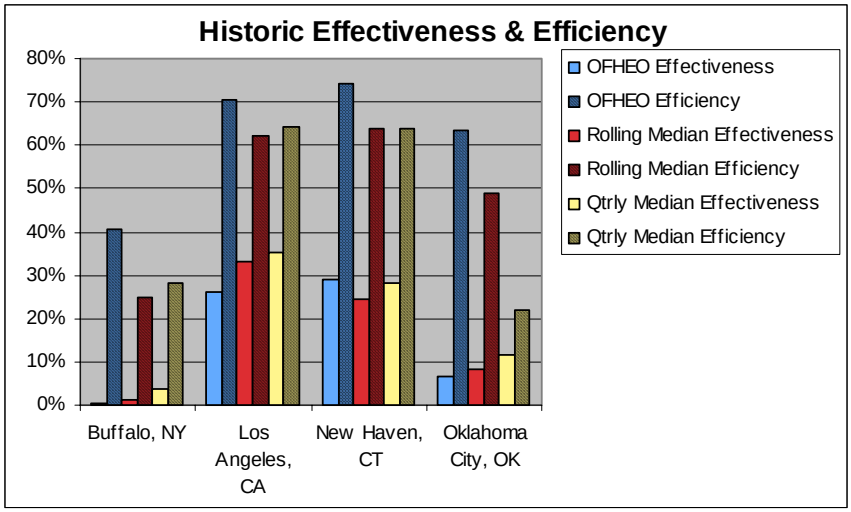
Actual loss ratios from the repeat sales data show that homeowners in every city experienced significant losses looking over the entire period reviewed:

	Loss Ratio
Buffalo, NY	8.0%
Los Angeles, CA	10.8%
New Haven, CT	11.2%
Oklahoma City, OK	4.4%

How well did our alternative indices detect these losses? We summarize the results below:

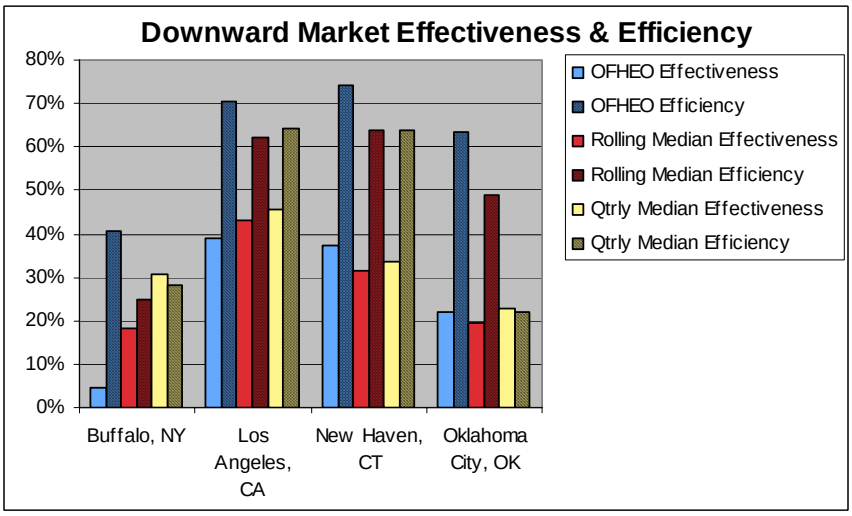
Summary table – Basic Model Overall Performance

Basic Model	OFHEO MSA		Rolling Median		Quarterly Median	
City	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
Buffalo, NY	0.4%	40.7%	1.4%	24.9%	3.9%	28.1%
Los Angeles, CA	26.1%	70.5%	33.2%	62.1%	35.4%	64.4%
New Haven, CT	29.0%	74.0%	24.5%	63.6%	28.3%	64.0%
Oklahoma City, OK	6.7%	63.4%	8.3%	49.0%	11.5%	22.1%



Summary table – Downward Market Performance

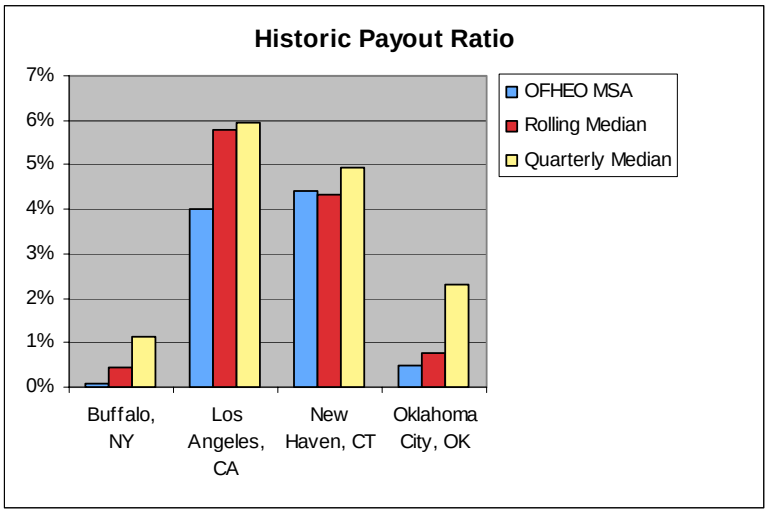
Downward Market	OFHEO MSA		Rolling Median		Quarterly Median	
City	Effectiveness	Efficiency	Effectiveness	Efficiency	Effectiveness	Efficiency
Buffalo, NY	4.7%	40.7%	18.1%	24.9%	30.6%	28.1%
Los Angeles, CA	39.2%	70.5%	43.0%	62.1%	45.6%	64.4%
New Haven, CT	37.2%	74.0%	31.4%	63.6%	33.6%	64.0%
Oklahoma City, OK	22.1%	63.4%	19.6%	49.0%	23.0%	22.1%



The historical payout cost of providing a hedge would have varied widely, depending on the city and the index used:

Summary table – payout ratios of alternative indices (% of total home purchase value)

City	Payout Ratio		
	OFHEO MSA	Rolling Median	Quarterly Median
Buffalo, NY	0.1%	0.4%	1.1%
Los Angeles, CA	4.0%	5.8%	6.0%
New Haven, CT	4.4%	4.3%	5.0%
Oklahoma City, OK	0.5%	0.8%	2.3%



The OFHEO Index

As expected, the OFHEO index was quite efficient. In most of the cities it appears to be a worthwhile, though an imperfect hedge for home price risk. It would also historically have been the cheapest index on which to provide coverage. Note that low effectiveness in Oklahoma City is due to the fact that very few of the repeat sales records used for testing in that City were from the mid 1980's, when the biggest price decline occurred there. (Overall, the loss ratio in Oklahoma City was quite low. Recall that in an up market, effectiveness will be 0). When measuring downward effectiveness (effectiveness in covering losses conditioned upon the index going down), the OFHEO index performance improved considerably for Oklahoma City. However, it failed to pick up price declines occurring in Buffalo, with effectiveness of only 0.4% and downward effectiveness of only 4.7% though based on the OFHEO index it would have been inexpensive.

Citywide median price indices

Citywide median price indices generally covered more of homeowner losses – the exception being New Haven, where the OFHEO index was somewhat more effective. However, the city wide median price indices were generally less efficient and would have resulted in a more expensive HVP program. An interesting result was that with the exception of Oklahoma City, the quarterly median indices were more efficient, and in all cases were more effective, than rolling annual median indices. This result may suggest that the seasonal cycles of the home sales market – which are ignored by a rolling annual

median and strongly reflected in quarterly medians – may be an important factor in the losses faced by homeowners.

ZIP code indices

We developed and tested a ZIP code rolling annual median price index for Buffalo due to the poor performance of other indices there. A rolling annual approach was necessary given the thinness of the data. This index would have had effectiveness of 27.8% and efficiency of 36.3%, with downward effectiveness of 50.3%. The overall payout ratio would have been 5.6%. Clearly, this index would have been far superior to any of the other indices tested to Buffalo, although its performance was still somewhat poor compared to the performance of other indices in other cities. There may be other formulations of indices that would work better in Buffalo, or it may simply be the case that for some reason there are larger idiosyncratic forces determining individual home price returns there.

2.5 Conclusion

No one of the price indices tested emerged as a clearly superior option for all situations. This result is somewhat challenging for efforts to establish a multiple city program based on the same index. A program based on the OFHEO index would provide a measurable level of protection for customers in many situations, and would be relatively inexpensive to provide. However, it would be very important for homeowners to be aware that there are many components of house price risk which the OFHEO index simply does not cover. Indices that measure house price changes in smaller geographic areas, if their efficiency can be improved, would be an important tool for HVP programs. The FiServ/CSW repeat sales index may be one such possibility, and should be tested.

2.6 Data Summary

Basic Model	Buffalo			Los Angeles			New Haven			Oklahoma City		
	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median
Loss Ratio	8.0%	8.0%	8.0%	10.8%	10.8%	10.8%	11.2%	11.2%	11.2%	4.4%	4.4%	4.4%
Payout Ratio	0.1%	0.4%	1.1%	4.0%	5.8%	6.0%	4.4%	4.3%	5.0%	0.5%	0.8%	2.3%
Effectiveness	0.4%	1.4%	3.9%	26.1%	33.2%	35.4%	29.0%	24.5%	28.3%	6.7%	8.3%	11.5%
Efficiency	40.7%	24.9%	28.1%	70.5%	62.1%	64.4%	74.0%	63.6%	64.0%	63.4%	49.0%	22.1%

Downward Market	Buffalo			Los Angeles			New Haven			Oklahoma City		
	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median	OFHEO	Roll Median	Qtr Median
Loss Ratio	9.1%	5.3%	5.6%	18.3%	16.1%	16.6%	18.4%	15.2%	15.8%	14.5%	11.9%	8.1%
Payout Ratio	1.0%	3.8%	6.1%	10.2%	11.2%	11.8%	9.3%	7.5%	8.3%	5.1%	4.8%	8.4%
Effectiveness	4.7%	18.1%	30.6%	39.2%	43.0%	45.6%	37.2%	31.4%	33.6%	22.1%	19.6%	23.0%
Efficiency	40.7%	24.9%	28.1%	70.5%	62.1%	64.4%	74.0%	63.6%	64.0%	63.4%	49.0%	22.1%

3.0 Capital Requirements and Pricing Requirements for Multiple-City Home Value Protection Programs

3.1 Introduction

A Home Value Protection (HVP) program has three major cost components:

- The program must be able to meet the expected cost of claims.
- The program must hold capital to pay claims in the event that price declines (and therefore losses) are greater than expected. The program must meet the cost of holding that capital.
- The program must pay marketing, administrative, and overhead costs.

This report looks in detail at the first two of these three major cost components. Customers must pay the HVP program enough to meet the expected cost of claims. They must also make an additional payment for the program to raise adequate capital such that even in the event of steep home price declines, the program can make good on its commitments.

The advantage of a multiple-city HVP program is that since price movements in different cities are only partly correlated, the probability of an entire portfolio of cities having steep price declines is lower than the probability of any one city having a steep price decline. While some cities might be experiencing a price decline, other cities could be increasing in value and therefore the premiums taken in from those latter cities can help to meet the cost of claims in the former. This diversification should thus reduce the amount of capital the program must hold to meet greater than expected claims, in turn reducing the capital charges that consumers must bear. A major question this paper explores is how much of a diversification benefit is created by increasing the number of cities an HVP program serves.

3.2 Overview of the modeling approach

To model the anticipated costs of a multiple city HVP program we used a statistical modeling approach where we simulated potential future home price scenarios across a portfolio of cities, and then determined the resulting payouts an HVP program would make under each of these scenarios, given certain assumptions about the rules of the program and homeowner behavior. From this analysis we could then calculate the average premium an HVP program would need to charge, as well as the total value of policies it could write for any given level of capital reserves. We tested two portfolios of cities, a 3-MSA simulation of Buffalo, Syracuse and New Haven (all cities that have expressed an interest in running an HVP program) and a 15-MSA simulation of the largest 15 metropolitan statistical areas (in terms of population) in the United States:

New York	Philadelphia	Atlanta
Los Angeles	Boston	Miami
Chicago	Detroit	Seattle
Washington	Dallas	Phoenix
San Francisco	Houston	Minneapolis

We estimated the cost and capital requirements for providing HVP coverage on an MSA-wide index such as the OFHEO index.

The modeling approach consisted of several components:

3.2.1 Estimation of house price path parameters and simulation of future price paths.

Estimating potential future home price path movements requires a more complex approach than the "random walk" that could be modeled for stock prices. Home prices are serially correlated, meaning that house price movements in any one quarter are influenced by price movements in previous quarters. To account for this momentum we estimated an autoregression model in which home price movements in any one quarter are the function of a baseline trend, the effect of price movements in the past four quarters, and a random shock.

To generate potential future house price paths for multiple cities, we must consider the degree to which home prices in different cities are partly correlated, otherwise we would overstate the amount of diversification provided. We thus estimated autoregression parameters for the entire portfolio of cities, and then modeled the additional variance that individual cities could have from the movement of the portfolio. Historical price data from the OFHEO index was used in the regression analysis to determine the base trend, the amount of momentum (the size of the coefficients for each of the lag terms in the regression), and the size of the random shocks to home prices for each portfolio.

For the 3-MSA portfolio, we estimated a portfolio equation as follows:

$$\Delta P(t) = 0.00239 + 0.386961\ \Delta P(t-1) + 0.336149\ \Delta P(t-2) + 0.216229\ \Delta P(t-3) - 0.224059\ \Delta P(t-4) + \varepsilon(t)$$

To model the additional volatility in home prices at the MSA level we assumed that quarterly MSA house price returns were normally distributed around the portfolio quarterly return. The assumption of a normal distribution simplifies the modeling exercise. However, the estimated volatility must be calibrated appropriately in order to provide consistent results. Simply taking the MSA level estimated volatility will tend to understate the persistence of shocks and hence understate losses. However, we know that the expected losses of a three city portfolio are the same as the expected losses of the individual cities. Therefore, we use the estimated portfolio equation to capture the correlation across cities and we sue the volatility measure to calibrate the three city price paths to the "correct" level of losses.

We adopted a similar approach for the 15 cities estimating the following portfolio equation:

$$\Delta P(t) = 0.003717 + 0.501055\ \Delta P(t-1) + 0.07665\ \Delta P(t-2) + 0.238199\ \Delta P(t-3) - 0.099857\ \Delta P(t-4) + \varepsilon(t)$$

With the parameters in place, we then ran 1,000 simulations for both the 3-MSA and the 15-MSA portfolios generating potential future price paths at the MSA level. The simulations went out for 30 years.

3.2.2 Estimation of insurance program payouts within the simulated housing market.

The actual payouts of an HVP program depend not only on what happens to house prices, but also on the rules of the program, the value of the homes it protects, and how homeowners who purchase the product behave – particularly when they decide to move. We made the following assumptions:

- The program was assumed to write $1,000 million of "insurance" at a constant rate over a five year period. By having homeowners enroll in our simulated program over a period of time, the program achieved diversification not only across cities but also across time, thus further reducing the potential for very large losses. This diversification across time is of course a feature that we would expect a real-world HVP program to achieve.
- The HVP program would pay claims to homeowners equal to the amount of coverage purchased times the percentage drop in the simulated price index from the time the homeowner enrolled to the time they moved out of their home.
- Homeowners could not make a claim in the first three years after they signed up for HVP (a feature of the Syracuse HVP program)
- Homeowners moved out of their homes at a constant rate of 10 percent per year

By playing out these assumptions for each of the 1,000 simulated price paths we calculated the total payouts the HVP program would have made as well as the present value of the payouts.

3.2.3 Calculation of premiums and capital requirements ratios.

The expected cost of claims for the HVP program was calculated by first calculating the average present value of the payouts across every simulated price path, then dividing that number by the total insurance written.

To calculate the capital requirements ratio (i.e. the amount of initial capital investment in program reserves needed to write the $1 billion of insurance) we looked at the amount of capital needed to keep the program solvent with a 99% probability. Given the 30 year horizon of the simulations, this could be interpreted as allowing the program to go bankrupt just once every three millennia. Our approach was as follows:

- We looked at the present value of losses in the 99th percentile loss scenario – meaning that 99 per cent of simulated price paths resulted in lower payouts and 1 per cent of simulated price paths resulted in higher payouts.
- We subtracted from this the present value of premiums paid as defined above.
- The result of this calculation is the level of reserves needed to just preserve solvency in 99% of future scenarios.

3.3 Results

The table below presents the results of the three city simulation.

	3 cities individually	3 cities pooled program
Premiums	21.6 basis points	21.3 basis points
Required reserves	$ 34.0 million	$ 31.6 million
Program leverage	29.4 x	31.6 x

By moving into a pooled program there is a modest benefit from increased diversification as the amount of insurance written for a given level of reserves increases by 7.5%. This result is a substantially smaller increase than would be achieved if cities moved completely independently of each other. A separate simulation suggested a 30% increase in insurance underwritten when moving just from one city to two cities that move independently of one another.

The table below presents the results of the fifteen city simulation.

	15 cities individually	15 cities pooled program
Premiums	19.1 basis points	19.2 basis points
Required reserves	$ 25.8 million	$ 16.9 million
Program leverage	38.7 x	59.0 x

There are increased benefits from diversification in the fifteen city simulation. In this case the amount of insurance written for a given level of reserves increases by more than 50%.

3.4 Conclusion

Several conclusions are clear from the results detailed above:

- First, the benefits of diversifying an HVP program across multiple cities is significant, and increase as the number of cities served increases to a more nationally representative portfolio. This result is not surprising. At the national level, house prices are quite stable, and house price declines historically have been limited to particular geographic areas rather than occurring nationwide.

- The cost of providing investors with a return on the initial capital they invest is a significant element of HVP program costs. The Syracuse pilot program did not have such a cost as the initial capital came from a federal grant. Because diversifying to additional cities lowers the capital reserves requirement, it is a particularly important strategy to lower costs to consumers of providing HVP.

- The expected cost of claims compares favorably to the expected cost of claims calculated in previous analyses for the City of Syracuse HVP program. Note, however, that the numbers presented here are effectively an average of the effective cost of claims across MSAs. To avoid adverse selection, an HVP program would need to vary the premium, charging higher premiums in areas where there was

downward price momentum or higher risk and lower premiums in areas where there was upwards price momentum.

3.5 Limitations to the methodology

There are several important limitations to the approach that we should note. Future modeling efforts may want to do additional research to determine the impact that these limitations have on the modeling results.

One limitation is that while we assume house price movements to be serially correlated at the portfolio level, we assume that the variance of MSAs around that portfolio return to be serially uncorrelated. In order to avoid understating the potential for loss, we have calibrated this level of volatility so that total losses are consistent with individual city level estimates. However, this assumption may introduce additional unforeseen sources of bias.

A significant limitation with our analysis is that it is based on parameters estimated from house price movements actually observed over the past 25 years. The future may see different dynamics emerge. In particular, future price appreciation may be lower than historic price appreciation both due to a less inflationary environment and due to a set of macroeconomic conditions that is less favorable to housing. This is a significant area for future research.

A related caveat is that other modeling approaches could be used to generate potential future price paths that differ from the paths created in our simulations. While we believe our simulations represent a simple and common-sense approach, they are not the only valid approach that could be used. We invite others to try novel approaches (and share the results!).

An additional area for future research is to extend the reserves analysis to a program providing ZIP code level coverage. This is a relatively straightforward extension. However, time and budget constraints did not permit such an analysis in this project.

A final limitation is that we do not know how the presence of HVP may affect homeowner behavior. Were homeowner mobility patterns to differ substantially from the 10% constant hazard rate of moving assumed, HPV program payouts could be significantly higher or lower than estimated losses here. Currently, relatively few people move during down markets, and this “downward stickiness,” were it to persist despite the presence of HVP, would lower HVP payouts. However, were there to be significant price declines, and these declines led to fears about the solvency of the HVP program, a run on the program could occur leading to serious losses. On the other hand, homeowner psychology might be positively affected by the presence of HVP such that homeowners would stay put, and new homeowners would come in to boost the market, even in down markets. This effect could be called a “virtuous circle” in which the confidence generated by the HVP program in and of itself reduces the potential for price declines.

4.0 Regulatory Review

As part of an overview and introduction to the ways in which a HVP program might be implemented in various cities, the following regulatory scan may provide some useful information for those considering such a program. The content should be considered informational and is not intended to provide a legal or regulatory opinion or constitute an exhaustive review.

4.1 Scan of Possible Regulatory Considerations

There are a wide range of state and federal regulations that might apply to a Home Value Protection (HVP) program, but since it is a newer product or concept, specifically applicable regulations are not easily available through a preliminary review of state and federal regulations. This is due in large part to the variations in the way a HVP program might be set up and the different relationships it might have to underlying mortgage or the settlement process. The critical question is what regulatory area HVP will fit into; – if considered an insurance product, insurance regulations would apply; if considered a derivative, securities regulations may come into play; if considered a mortgage, banking regulations will apply.

Points 4.1.1 through 4.1.3 all apply if HVP is considered to be a mortgage.

4.1.1 Price Level Adjusted Mortgages (PLAM)- New York State

- There are a few references to regulations around Price Level Adjusted Mortgages from New York and they are excerpted and included below for reference.
- General Regulations of the New York State Banking Board:[5] § 82.1 Authorization for alternative mortgage instruments, Part B: "Nothing in this Part authorizes a mortgage loan which contains a demand feature or a mortgage loan which is structured either as a price level adjusted mortgage (PLAM) or a shared appreciation mortgage (SAM)."
- Opinion Letter from Alvin A. Narin, Assistant Counsel of the NY State Banking Board to Elisabeth Prentice dated April 11, 2002:[6] "Given the structure that you describe, noting in particular that the note amount and the amount of the borrower's monthly payments would not be tied to the house price index, we concur that the [HVP] product is not akin to a PLAM, which is subject to adjustments in the outstanding balance. Moreover, as you have stated that under no circumstances would the homeowner share with the note holder any appreciation that occurred in the value of the property, it would not be considered a [Shared Appreciation Mortgage] SAM and likewise would not be prohibited by Part 82. Accordingly, the equity assurance product does not violate Part 82."

4.1.2 HVP Fees as Part of Closing Costs

- Reviewing the components of the HUD-1,[7] there are limited locations where HVP Enrollment fees might be included,[8] though such inclusion may require regulatory

[5] http://www.banking.state.ny.us/regbb82.htm
[6] http://www.banking.state.ny.us/lo020411.htm
[7] http://www.hud.gov/offices/hsg/sfh/res/sc3sectd.cfm
[8] http://www.hud.gov/offices/hsg/sfh/ref/sfhp2-15.cfm

approval. The most likely candidate is "1300 Additional Settlement Charges."[9] Important ramifications of including an HVP enrollment fee on the HUD-1 include:

- Ability to finance HVP enrollment fee as a closing cost
- Possible trigger of regulations such as HOEPA, the HomeOwner Equity Protection Act, if inclusion of the HVP enrollment fee into a mortgage results in the mortgage being classified as a "high cost loan." This would require a disclosure to the consumer, at a minimum, and might also trigger other regulatory restrictions.

4.1.3 Federal Preemption

- Federal Preemption could play a role in the regulatory implementation of a HVP program, particularly if it were pursued across multiple states. While individual state regulations may be manageable through discussions with state regulators, such overriding guidance would be beneficial for a program across multiple states.
- There are a variety of issues surrounding the federal preemption of state laws, and it is not possible to predict how such a federal override might apply, because the effect is dependent on the language of the federal regulation.
- Some of this uncertainty involving federal preemption is evident in recent federal preemption of state powers to regulate banks.[10]

4.1.4 Other Potential Regulatory Issues:

- Securities laws. If HVP is defined to be a security, there will be securities regulations that may require certain disclosures about the product and its offerers. Sellers of the product might have to be registered securities brokers. The Syracuse HVP project obtained a legal opinion that their product did not constitute a security.
- Insurance laws. If HVP is insurance, different state regulations may impact whether and how it can be offered. New York State, for instance, has a prohibition on the provision of "financial guarantee insurance," into which category HVP may fall. In Connecticut, financial guarantee insurance must be provided by a monoline insurance company, meaning that HVP products could not be integrated into the product line of a Property & Casualty insurance business.

4.1.5 Potential Product Offerings

- A HVP product could be offered in a number of ways that may have different regulatory implications. There are two main questions involving the establishment of an HVP program:
  - Who holds the risk?
    - For-profit: Insurance, reinsurance, or mortgage insurance companies, mortgage companies, diversified financial institutions
    - Non-profit: National or local government or community development organization.
  - Who or how is the product offered, distributed, and paid for?
    - Stand alone product- paid for inside or outside of settlement costs
    - Integrated into Mortgage

[9] http://www.hud.gov/offices/hsg/sfh/res/sc3secta.cfm
[10] http://www.realtor.org/PublicAffairsWeb.nsf/Pages/VotersOpposeBankRegs?OpenDocument

        - Offered through insurers, real estate agents, settlement companies, etc.
- HVP as Stand Alone Product
    - Distinct Transaction
    - Easy to purchase at any time, either around closing or years later, increasing the number of potentially interested homeowners.
    - Similar to Syracuse but with for profit entities
- HVP Product Integrated with Mortgage
    - Possibly lower mortgage rate on high LTV loans (insured collateral)
    - Possible reduction in mortgage costs and easier to finance HVP fees as part of loan.
    - Possibly lower mortgage insurance requirement. Theoretically, the presence of HVP reduces the amount of risk of default on the mortgage, and would suggest a reduction of MI insurance rates when HVP is present. If a firm were to offer both HVP and MI, that firm could manage both premiums.
    - Possible concepts to connect HVP with mortgage:
        - HVP premium paid as points at closing
        - HVP premium paid by 3rd party – Lender, Mortgage Insurer, etc.
        - HVP premium capitalized into mortgage and included in loan amount
        - Payoff/Claim could automatically adjust mortgage amount downward
- HVP Integrated with Mortgage Insurance (MI)
    - Perhaps complimentary to regular MI in that HVP specifically insures the value of the underlying asset, while MI generally insures underlying value and risk of non-payment.
    - By distinguishing different risks, pricing could more accurately reflect risk.
    - While the presence of HVP might lower the traditional MI, the two together would cost more than MI alone.
    - Possibly lower mortgage insurance premium (less risk to insurer)
- Pricing Considerations with any retail application. Premium as up front fee, annual premium, or blend
    - Syracuse program uses an up-front fee only.
    - If blended, up front fee could be reduced, making product more attractive.
    - Possibility of dynamic annual premium pricing.
    - If some form of annual premium were used, it would increase the concern of adverse selection, where only homeowners in down markets would stay in the program. Any effects of adverse selection would need to be incorporated into any annual premium, but upfront fees would be more straightforward.
- Potential Secondary HVP Product Applications
    - HVP Incorporated into a shared appreciation product which let borrowers access lower rates and payments in exchange for sharing with their lenders part of the appreciation in value their properties experience.
    - HVP as a product for Lenders or Mortgage Insurers. In December 2004, the Chicago Mercantile Exchange announced plans "to explore the development of derivatives based on the Fiserv, CSW, (CSW) family of Housing Price Indexes (HPI)."[11] Such an exchange could provide a market for HVP related products for more sophisticated participants.
    - HVP similar to Syracuse Program

[11] http://www.cme.com/about/press/cn/04-188HousingIndex10813.html

4.2 Representative State Regulators

For reference, the following section contains information for the state regulators of the cities included in the preceding section on index analysis.

4.2.1 New York State Department of Taxation and Finance[12]

- Contact Information
  - NYS Department of Taxation and Finance
  - W.A. Harriman Campus, Albany, NY 12227
- Divisions
  - Office of Counsel (518) 457-2153 or (518) 457-2070
  - Office of Tax Enforcement (800) 225-5829
  - Office of the Deputy Inspector General (518) 457-3775

4.2.2 New York State Housing Finance Agency[13]

- The New York State Housing Finance Agency's ("HFA") goal is to provide affordable mortgages to private and non-profit developers. To accomplish this goal, HFA lends the proceeds of various taxable and non-taxable bonds.
- Contact Information
  - 107 Delaware Avenue, Suite 620, Buffalo, NY 14202, (716) 853-1548

4.2.3 New York State Banking Department[14]

- The New York State Banking Department is the primary regulator for financial institutions operating in New York, including mortgage bankers and brokers.
- Contact Information
  - Superintendent of Banks, One State Street, New York, NY 10004-1417
- Divisions
  - Community and Regional Banks Division - Supervises community focused domestic commercial banks, savings banks, savings and loan associations, and holding companies for the aforementioned institutions. In addition, supervises credit unions, safe deposit companies and thrift institution-sponsored charitable foundations.
    Deputy Superintendent: Manuel Kursky[15] - (212) 709-1610
  - Mortgage Banking Division - Responsible for the supervision of entities involved in the residential mortgage business who handle property located in New York State, including licensed mortgage bankers and registered mortgage brokers. Also handles resolution of all written mortgage-related consumer complaints.
    Deputy Superintendent: Kenneth Bielemeier[16] - (212) 709-5540
- Background
  - Community development[17] is defined as:
    - Affordable housing (including multifamily rental housing) for low- or moderate-income individuals;

[12] http://www.tax.state.ny.us
[13] http://www.nyhomes.org/hfa/hfa.html
[14] http://www.banking.state.ny.us
[15] manuel.kursky@banking.state.ny.us
[16] ken.bielemeier@banking.state.ny.us
[17] http://www.banking.state.ny.us/crafaq.htm#q6

        - Community services targeted to low- or moderate-income individuals;
        - Activities that promote economic development by financing businesses or farms that meet the size eligibility standards of the Small Business Administration's Development Company or Small Business Investment Company programs or have gross annual revenues of $1 million or less;
        - Activities that revitalize or stabilize low- or moderate-income geographies; or
        - Activities that prevent defaults and/or foreclosures in loans made pursuant to (1) and (3), of this subdivision (See Part 76 of the General Regulations of the Banking Board).
    - An institution receives favorable consideration for those activities that have a primary purpose of community development. Although primary purpose is not defined in the regulation, it is presumed to mean that a majority of the activities engaged in by the beneficiary of the bank's support, meet the regulatory definition of community development. Community development support may take the form of community development loans, qualified investments (including grants), or community development services.

4.2.4 Connecticut Department of Banking[18]

- Contact Information[19]
    - 260 Constitution Plaza Hartford, CT 06103-1800
    - John P. Burke,[20] Banking Commissioner (860) 240-8100
- Divisions
    - Consumer Credit Division,[21] 260 Constitution Plaza, Hartford, CT 06103-1800 (860) 240-8200 *or* (800) 831-7225
      Alan J. Cicchetti,[22] Deputy Commissioner
      William Nahas, Jr.,[23] Division Director
    - Financial Institutions Division,[24] 260 Constitution Plaza, Hartford, CT 06103 (860) 240-8180 *or* (800) 831-7225
      Mary Ellen O'Neill,[25] Division Director
    - Securities and Business Investments Division,[26] 260 Constitution Plaza, Hartford, CT 06103, (860) 240-8230 *or* (800) 831-7225
      Ralph A. Lambiase,[27] Division Director
- Background
    - The mission of the Department of Banking is to protect users of financial services from unlawful or improper practices by requiring that regulated entities and individuals adhere to the law, assuring the safety and soundness of state chartered banks and credit unions, educating and communicating with the public and other stakeholders, and promoting cost-efficient and effective regulation.

4.2.5 Connecticut Insurance Department[28]

- Contact Information

[18] http://www.state.ct.us/dob/
[19] http://www.state.ct.us/dob/pages/travel.htm
[20] john.burke@ct.gov
[21] http://www.state.ct.us/dob/pages/ccdiv.htm
[22] alan.cicchetti@ct.gov
[23] william.nahas@ct.gov
[24] http://www.state.ct.us/dob/pages/fininst.htm
[25] mary.oneill@ct.gov
[26] http://www.state.ct.us/dob/pages/secdiv.htm
[27] ralph.lambiase@ct.gov
[28] http://www.ct.gov/cid/site/default.asp

- State of Connecticut Insurance Department, 153 Market Street, Hartford, CT 06103, Mailing address: P.O. Box 816, Hartford CT 06142-0816 (860) 297-3800 or (800) 203-3447 (CT Only)

- Selected Divisions
  - Consumer Affairs Division[29],[30] (860)297-3900 or (800) 203-3447
    Raymond T. Claytor, Director
  - Financial Regulation Division[31],[32] (860)297-3814 or (800) 203-3447
    Kathryn Belfi, Chief Examiner, Financial Analysis & Compliance
    James Gorman, Chief Examiner, Financial Examination
    John Purple, Chief Actuary
  - Market Conduct Division[33],[34] (860)297-3848 or (800) 203-3447
    Daniel Harrigan, Program Manager
  - Property & Casualty Division[35],[36] **(**860) 297-3867 or (860) 297-3913
    George B. Bradner, Director
    Judith Thibodeau, Principal Examiner

4.2.6 California State Treasury[37]

- Contact Information[38]
  - Post Office Box 942809, 915 Capitol Mall C-15, Sacramento, CA 94209-0001
  - Housing and Community Development ("HCD") Contact List[39]
- Divisions
  - Investments - Dan Dowell,[40] Director - (916) 653-3147
  - Securities Management - Francisco Lujano,[41] Director - (916) 653-4386
- Background
  - Community Affairs[42] - HCD administers more than 20 programs that award loans and grants for the construction, acquisition, rehabilitation and preservation of affordable rental and ownership housing, homeless shelters and transitional housing, public facilities and infrastructure, and the development of jobs for lower income workers. Please note that, with rare exceptions, these loans and grants are not made to individuals, but to local public agencies, nonprofit and for-profit housing developers, and service providers. In many cases these agencies then provide funds to individual end users.

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[29] http://www.ct.gov/cid/cwp/view.asp?a=1272&Q=254350&cidPNavCtr=|#39394
[30] ctinsdept.consumeraffairs@po.state.ct.us
[31] http://www.ct.gov/cid/cwp/view.asp?a=1261&Q=254414&cidPNavCtr=|#39398
[32] ctinsdept.financial@po.state.ct.us
[33] http://www.ct.gov/cid/cwp/view.asp?a=1268&Q=254584&cidPNavCtr=|#39395
[34] ctinsdept.marketconduct@po.state.ct.us
[35] http://www.ct.gov/cid/cwp/view.asp?a=1271&Q=254646&cidPNavCtr=|#39393
[36] ctinsdept.propcasualty@po.state.ct.us
[37] http://www.treasurer.ca.gov/
[38] http://www.treasurer.ca.gov/inside/directory.htm
[39] http://www.hcd.ca.gov/contact.html
[40] ddowell@treasurer.ca.gov
[41] flujano@treasurer.ca.gov
[42] http://www.hcd.ca.gov/ca

4.2.7 California Department of Financial Institutions[43]

- Contact Information[44]
  - 111 Pine Street, Suite 1100, San Francisco, CA 94111-5613, (415) 263-8500
    300 S. Spring Street, Suite 15513, Los Angeles, CA 90013-1204, (213) 897-2085
    1810 13th Street, Sacramento, CA 95814, (916) 322-5966
    7575 Metropolitan Drive, Suite 108, San Diego, CA 92108, (619) 682-7227
- Selected Divisions
  - Laws and Regulations[45]
  - Consumer Services[46]
  - Licensee Services[47]

4.2.8 California Department of Corporations[48]

- Mortgage lenders, mortgage bankers, brokers-dealers and investment advisors are licensed by the Department of Corporations
- Contact Information[49] (866) 275-2677 or 866 ASK CORP
  - 320 West 4th Street, Suite 750, Los Angeles, CA 90013-2344, (213) 576-7500
    71 Stevenson Street, Suite 2100, San Francisco, CA 94105-2980, (415) 972-8559
    1515 K Street, Suite 200, Sacramento, CA 95814-4052, (916) 445-7205
    1350 Front St., Room 2034, San Diego, CA 92101-3697, (619) 525-4233
- Divisions
  - Securities Regulation Division[50]
  - Financial Services Division[51]

4.2.9 California Department of Insurance[52]

- Contact Information[53]
  - Consumer Communications Bureau, 300 South Spring Street, South Tower, Los Angeles, CA 90013, 800-927-HELP (4357) or (213) 897-8921
- Divisions
  - Consumer[54]
  - Industry[55]

4.2.10 Texas Department of Banking[56]

- Contact Information[57]

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[43] http://www.dfi.ca.gov/
[44] http://www.dfi.ca.gov/contact/
[45] http://www.dfi.ca.gov/lawsreg/
[46] http://www.dfi.ca.gov/consumer/
[47] http://www.dfi.ca.gov/licensee/
[48] http://www.corp.ca.gov/
[49] http://www.corp.ca.gov/contactus/contact.htm
[50] http://www.corp.ca.gov/srd/security.htm
[51] http://www.corp.ca.gov/fsd/financial.htm
[52] http://www.insurance.ca.gov/
[53] http://www.insurance.ca.gov/docs/FS-Contacts.htm
[54] http://www.insurance.ca.gov/docs/FS-Consumer.htm
[55] http://www.insurance.ca.gov/docs/FS-Insurer.htm
[56] http://www.banking.state.tx.us
[57] http://www.banking.state.tx.us/wdicf.htm

- 2601 North Lamar Boulevard, Austin, Texas 78705-4294, (512) 475-1300

- Divisions
  - Executive Division – Participates in the supervision and regulation of state banks, trust companies, and state-licensed foreign bank agencies, and the administration and enforcement of laws.
    Randall S. James,[58] Commissioner - (512) 475-1325
  - Finance Commission of Texas[59] - The Finance Commission is responsible for overseeing and coordinating the Texas Department of Banking, the Savings and Loan Department, and the Office of the Consumer Credit Commissioner and serves as the primary point of accountability for ensuring that state depository and lending institutions function as a system, considering the broad scope of the financial services industry.
- Background
  - Housing Strategies - For 2005-2006, the Texas Department of Housing and Community Affairs ("TDHCA") proposes an increase in the state's appropriation to the Housing Trust Fund ("HTF") and creation of a dedicated funding source for the program. The agency also seeks to expand public support of credit counseling programs.

4.2.11 Oklahoma State Banking Department[60]

- The Department regulates state-charted banks, credit unions, savings and loans, and trust companies as well as cemeteries and money order companies.
- Contact Information[61]
  - 4545 North Lincoln Boulevard, Suite 164, Oklahoma City, Oklahoma 73105
  - (405) 521-2782
- Divisions
  - State Banking Board
  - State Credit Union Board
  - Savings & Loan Advisory Council
  - Examinations Staff

4.2.12 Oklahoma State Housing Finance Agency[62]

- The mission of Oklahoma Housing Finance Agency is to provide affordable housing resources. OHFA is the state's largest provider of affordable housing, offering nine housing programs ranging from a homeless program and rental assistance to housing development and home ownership.
- Contact Information
  - 100 NW 63rd Street, Suite 200, Oklahoma City, OK 73116, (405) 848-1144
- Divisions
  - Rental Assistance – The program provides assistance to more than 9,000 low-income families at a cost of $42 million dollars a year.
    Deborah Jenkins, Team Leader

[58] randall.james@banking.state.tx.us
[59] http://www.fc.state.tx.us/Home Equity/HEINDEX.HTM
[60] http://www.osbd.state.ok.us
[61] http://www.osbd.state.ok.us/Personnel/personne.htm
[62] http://www.ohfa.org

- Finance – Responsible for all state housing finance related functions.
  Eldon Overstreet, Team Leader
- Housing Development – Responsible for implementing the Housing Tax Credits Program, HOME Program, Trust Fund and OHFA Advantage bond program
  John Marshall, Team Leader

4.2.13 Oklahoma Insurance Department[63]

- The department assures that consumers have available a solvent insurance market, a well-educated industry from which to purchase insurance, and by providing high-quality policyholder service and education.
- Contact Information
  - 2401 N.W. 23rd, Suite 28, P.O. Box 53408, Oklahoma City, OK 73152-3408
  - (800) 522-0071
- Divisions
  - Comptroller – Shantha Varahan[64] (405) 522-4622
  - Financial – John Beers,[65] Director (405) 521-3966
  - Legal – Michael Ridgeway,[66] Director/General Counsel (405) 521-2746

[63] http://www.oid.state.ok.us/index.htm
[64] shanthavarahan@insurance.state.ok.us
[65] johnbeers@insurace.state.ok.us
[66] michaelridgeway@insurance.state.ok.us

4.3 Federal Regulators

The following section reviews some of the federal entities that might play a role in a multi state HVP program.

4.3.1 Securities Exchange Commission[67]

- The primary mission of the U.S. Securities and Exchange Commission ("SEC") is to protect investors and maintain the integrity of the securities markets. The SEC requires public companies to disclose meaningful financial and other information to the public, which provides a common pool of knowledge for all investors to use to judge for themselves if a company's securities are a good investment. The SEC also oversees other key participants in the securities world, including stock exchanges, broker-dealers, investment advisors, mutual funds, and public utility holding companies. The SEC is concerned primarily with promoting disclosure of important information, enforcing the securities laws, and protecting investors who interact with these various organizations and individuals.

4.3.2 U.S. Treasury Department[68]

- The Department of the Treasury is the primary federal agency responsible for the economic and financial prosperity and security of the United States, and as such is responsible for a wide range of activities including advising the President on economic and financial issues, promoting the President's growth agenda, and enhancing corporate governance in financial institutions.

4.3.3 Office of Management and Budget[69]

- The Office of Management and Budget's ("OMB's") predominant mission is to assist the President in overseeing the preparation of the federal budget and to supervise its administration in Executive Branch agencies. In helping to formulate the President's spending plans, OMB evaluates the effectiveness of agency programs, policies, and procedures, assesses competing funding demands among agencies, and sets funding priorities. OMB ensures that agency reports, rules, testimony, and proposed legislation are consistent with the President's Budget and with Administration policies. In addition, OMB oversees and coordinates the Administration's procurement, financial management, information, and regulatory policies. In each of these areas, OMB's role is to help improve administrative management, to develop better performance measures and coordinating mechanisms, and to reduce any unnecessary burdens on the public.

4.3.4 U.S. Department of Housing and Urban Development[70]

- The U.S. Department of Housing and Urban Development's ("HUD's") mission is to increase homeownership, support community development and increase access to affordable housing free from discrimination. To fulfill this mission, HUD will embrace high standards of ethics, management and accountability and forge new

[67] http://www.sec.gov
[68] http://www.treas.gov
[69] http://www.whitehouse.gov/omb
[70] http://www.hud.gov

partnerships--particularly with faith-based and community organizations--that leverage resources and improve HUD's ability to be effective on the community level.

4.3.5 Office of Federal Housing Enterprise Oversight[71]

- The Office of Federal Housing Enterprise Oversight's ("OFHEO's") primary mission is ensuring the capital adequacy and financial safety and soundness of two government-sponsored enterprises ("GSEs") -- the Federal National Mortgage Association ("Fannie Mae") and the Federal Home Loan Mortgage Corporation ("Freddie Mac").

4.3.6 Federal Housing Finance Board[72]

- The Federal Housing Finance Board regulates the 12 Federal Home Loan Banks ("FHLBanks") that were created in 1932 to improve the supply of funds to local lenders that, in turn, finance loans for home mortgages. The board also has regulatory authority and supervisory oversight responsibility for the Office of Finance. The Finance Board ensures that the FHLBanks, which are privately capitalized, government-sponsored enterprises, operate in a safe and sound manner, carry out their housing and community development finance mission, and remain adequately capitalized and able to raise funds in the capital markets.

4.3.7 Federal Reserve System[73]

- The Federal Reserve System is the central bank of the United States. Congress created the Federal Reserve charging it with a responsibility to foster a sound banking system and a healthy economy. This remains, today, the broad mission of the Fed and its component parts: the 12 Federal Reserve Banks nationwide, each serving a specific region of the country; and the Board of Governors in Washington, D.C., established to oversee the Fed System.

4.3.8 Office of the Comptroller of the Currency[74]

- The Office of the Comptroller of the Currency ("OCC") charters, regulates, and supervises all national banks. It also supervises the federal branches and agencies of foreign banks. The OCC's nationwide staff of examiners conducts on-site reviews of national banks and provides sustained supervision of bank operations. The agency issues rules, legal interpretations, and corporate decisions concerning banking, bank investments, bank community development activities, and other aspects of bank operations. The OCC's activities are predicated on four objectives that support the OCC's mission to ensure a stable and competitive national banking system. The four objectives are:
  - To ensure the safety and soundness of the national banking system.
  - To foster competition by allowing banks to offer new products and services.
  - To improve the efficiency and effectiveness of OCC supervision, including reducing regulatory burden.
  - To ensure fair and equal access to financial services for all Americans.

[71] http://www.ofheo.gov
[72] http://www.fhfb.gov
[73] http://www.federalreserve.gov
[74] http://www.occ.gov

4.4 Knowledgeable Industry Experts

4.4.1 Elisabeth Prentice[75]

- NeighborWorks America
- Involved with Syracuse Home Value Protection program and the current research.

4.4.2 Eric Hangen[76]

- President, I Squared Community Development
- Involved with Syracuse Home Value Protection program and the current research.

4.4.3 Tom Skinner[77]

- Managing Director, RedBrick Partners
- Responsible for finance, research, and investment strategy
- Ten years of experience in real estate economics and new product development
- Involved with Syracuse Home Value Protection program and the current research.

4.4.4 Robert Schiller[78]

- Stanley B. Resor Professor of Economics, Yale University

See also section 1.7.2 Related Organizations and URLs for additional information.

[75] BPrentice@nw.org
[76] ehangen@i2community.org
[77] tskinner@redbrickpartners.com
[78] robert.shiller@yale.edu