

# REGULATING HOME EQUITY PROTECTION COMPANIES AND CONTRACTS: ARE STATES MAKING “THE BEST” AN ENEMY OF “THE GOOD?”

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*Residential homes are the largest, most leveraged assets in most U.S. families' portfolios. Home equity protection (HEP) contracts offer opportunities to safeguard these real estate interests. In the United States, each state decides if a HEP contract is financial guarantee insurance (FGI) and, therefore, regulated by the state laws and insurance commission rules, or non-insurance financial protection (NIFP), which may escape state and federal regulations. Because HEP contracts have the potential to provide substantial benefits to homeowners, their regulation should be designed to protect state residents and encourage the development of safe alternatives. This article explains HEP contracts, their development, and why states should treat those that require material interests as FGI. Particular focus is put on: (1) the advantages and disadvantages of HEP contracts that are linked to home price indices, (2) why linking these contracts to price indices should not disqualify them as FGI, and (3) how HEP companies engage in regulatory arbitrage by linking their policies to home price indices and claiming NIFP status.*

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## I. INTRODUCTION

Since 1945, U.S. household equity in real estate has grown more than 12,600%, reaching approximately \$12.4 trillion at the end of the third quarter 2015.<sup>1</sup> Despite the fact that individuals may face a greater likelihood of their houses falling in value than suffering damage from fire, wind, hail,

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<sup>1</sup> FED. RESERVE BANK OF ST. LOUIS, ECONOMIC RESEARCH, *Households: Owners Equity in Real Estate, Level*, <http://research.stlouisfed.org/fred2/series/OEHRENWBSHNO> (accessed January 1, 2016).

lightning, theft, or vandalism, the U.S. financial and insurance markets have developed few practical ways for families to protect themselves against declining real estate prices.<sup>2</sup> Furthermore, where and when alternatives have been offered, turnover has been rather weak – even when policies were subsidized.

As their name implies, home equity protection (HEP) contracts safeguard the non-debt value (i.e., equity) of residential homes, but their particular forms can vary considerably. They could be written to safeguard only homeowners' initial down payments, but coverage could also be broadened to include home improvements, mortgage amortization, and cost-of-living adjustments. HEP contracts could be offered only on primary residences or made available for second, third, or investment homes. Maturities could be long-term (e.g., 10-to-15 years), short-term, with the expectation of rollovers every two-to-three years, or last as long as the policyholder owns a protected home. Premiums might be up-front, lump-sum payments or monthly installments. When a protected home is sold, these contracts could be assumable – or not. Contracts might restrict claims to individuals who sell their homes at a loss and move certain distances away, but they could just as easily allow claims at contract maturity or remove all limitations so that claims can be made any time the contract is in-force.

*Insurance* is an elusive term, which explains why it is defined in different ways by different states. In general, it (1) is a contract, (2) with consideration secured by premiums that (3) pays or indemnifies the contract owner for (4) fortuitous<sup>3</sup> events that (5) cause financial loss. If a HEP contract is classified as financial guaranty insurance (FGI), then it is regulated by state laws and insurance commission regulations. By contrast, if the contract is classified by a state as non-insurance financial protection (NIFP), then it escapes that particular state's regulations and possibly federal regulations, as well.

The National Association of Insurance Commissioners (NAIC) defines FGI as a contract that protects a policyholder from “*changes in the value of specific assets or commodities, financial or commodity indices, or*

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<sup>2</sup> Robert J. Shiller & Allan N. Weiss, *Home Equity Insurance*, 19(1) J. REAL ESTATE FIN. & ECON. 21 (1999).

<sup>3</sup> In this context, *fortuitous* means that claims and the events that trigger them are independent and identically distributed (i.e., random), which implies they cannot be accurately forecasted.

*price levels in general.*”<sup>4</sup> Despite this guidance, each state can determine whether a HEP company is engaged in *the business of insurance* and, therefore, should be regulated as an FGI company.

In the past, FGI contracts focused mainly on protecting investors from credit risks associated with interest-earning public securities, such as municipal debt obligations, and private debt obligations, such as commercial mortgage-backed securities, collateralized debt obligations, automobile loans, and student loans. Since the 1980s, many states have required FGI companies to follow monoline rules, which have forced them to separate this business from other insurance lines. Such partitioning was intended to isolate FGI risks from other insurance lines so that contagion into or out of this sector did not occur.

This article explains HEP contracts, their development, and why states should treat those that require material interests as FGI. Particular focus is put on: (1) the advantages and disadvantages of HEP contracts that are linked to home price indices, such as the S&P/Case-Schiller Index, Federal Housing Finance Administration's Index, and CoreLogic Index, (2) why linking these contracts to price indices should not disqualify them as FGI, and (3) how HEP companies engage in regulatory arbitrage by linking their policies to home price indices and claiming NIFP status.

## II. WHAT ARE HEP CONTRACTS?

HEP contracts offer policyholders practical ways to safeguard the equity investments in their homes. If done correctly, these contracts can improve capital market efficiency, lower borrowing costs, and provide capital market access to borrowers with relatively low credit ratings. They can also provide social benefits, such as increasing labor mobility (e.g., accepting jobs that require relocation and the sale of homes at losses).<sup>5</sup> On the negative side, HEP contracts may encourage individuals to increase debt levels to unsustainable levels; discourage routine home maintenance

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<sup>4</sup> See Nat'l Ass'n Ins. Comm'r, *Definition of Insurance: Definition of Insurance Working Group* (Sept. 12, 2000) (unpublished manuscript), <http://www.naic.org/store/free/DOI-OP.pdf>; see also, NAIC Financial Guaranty Insurance Guideline: § 1A (1) (e), <http://www.naic.org/store/free/GDL-1626.pdf> (accessed January 1, 2016) (emphasis added).

<sup>5</sup> See Yulia Demyanyk, Dmytro Hryshko, María José Luengo-Prado, & Bent Sorensen, *Keeping the House or Moving for a Job*, 9 FED. RES. BANK OF CLEVELAND. ECON. COMMENTARY 1 (2013) (explaining doubts about this benefit).

improvements, and repairs; and induce premature home sales in declining markets, thereby accelerating systemic reductions in real estate prices.

Normally, HEP contracts have one-time costs (e.g., between 1.5% and 3.0% of a home's protected value),<sup>6</sup> long-term maturities (e.g., 10 to 15 years, but they terminate when a home is sold), relatively short vesting periods (e.g., 2 years), and maximum limits on claim payments (e.g., 25% of the protected value). Other limitations often apply, such as deductibles and denial of claims on foreclosed homes.

The vesting period has two major functions. First, it discourages short-term, speculative gains by flipping homes (i.e., purchasing houses with no intention to occupy, making minor improvements, and then quickly trying to resell them at higher prices). Second, by delaying claim payments, vesting reduces the ability to forecast changes in real estate prices, which (perhaps, ironically) improves the ability to price option contracts.

#### A. AN EXAMPLE OF HOW HEP CONTRACTS WORK

Consider a family that purchases a home for \$100,000, with a \$90,000 mortgage loan and \$10,000 down payment. To protect its equity investment, the family purchases a HEP contract having a two-year vesting period, 10-year maturity, and maximum payout of 25%. Exhibit 1 shows the consequences if the home is sold after its value rises by 10%, stays the same, or falls by 10%, 30%, and 40%. Notice that, during the two-year vesting period, the contract pays no claims, regardless of the percentage decline in the home's sales price. Afterwards, a ceiling of \$25,000 is imposed on claims when the home's selling price falls by 25% or more. Therefore, if the price falls to \$70,000, the payout cap is surpassed and claims remain at \$25,000. Similarly, a claim floor equal to \$0 occurs when the home's price stays the same or rises. In between these limits, claim payments are linearly and inversely related to the protected home's current market value. Therefore, at market prices of \$90,000 and \$80,000, these policies pay \$10,000 and \$20,000, respectively. As Exhibit 1 shows, the wealth of a HEP contract owner can rise, stay the same, fall, and even become negative, depending on the direction and extent of home price movements. This point will be important, later, in our discussion of indemnification.

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<sup>6</sup> Premium differences may be based on geographical location and individual considerations.

<b>Exhibit 1</b>						
<b>HEP Claims and Fluctuations in Household Equity Due to Home Price Changes*</b>						
<b>Initial Position</b>						
Purchase Price ... Protected Value	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Mortgage Loan	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000
<b>Down payment ...Initial Equity</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$10,000</b>
<b>Percentage Change in Home's Market Price</b>						
	+10%	0%	-10%	-30%	-40%	
<b>Years 1 and 2</b>						
Sales Price	\$110,000	\$100,000	\$90,000	\$70,000	\$60,000	\$60,000
Mortgage Loan	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000
HEP Claims	\$0	\$0	\$0	\$0	\$0	\$0
<b>Equity in Year 1 or 2</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$0</b>	<b>-\$20,000</b>	<b>-\$30,000</b>	<b>-\$30,000</b>
<b>Years 3 to 10</b>						
Sales Price	\$110,000	\$100,000	\$90,000	\$70,000	\$60,000	\$60,000
Mortgage Loan	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000	-\$90,000
HEP Claims	\$0	\$0	\$10,000	\$25,000**	\$25,000**	\$25,000**
<b>Equity in Years 3 to 10</b>	<b>\$20,000</b>	<b>\$10,000</b>	<b>\$10,000</b>	<b>\$5,000</b>	<b>-\$5,000</b>	<b>-\$5,000</b>

\* Assets and claims are positive values; Liabilities are negative values. This example ignores mortgage amortization.

\*\* Claims are limited to 25% of the protected value.

## B. BRIEF HISTORY OF HEP CONTRACTS IN THE UNITED STATES

The first U.S. experiment with HEP contracts was a Department of Defense program for military personnel in the mid-1960s, followed by a municipally sponsored program in Oak Park, Illinois during the mid-to-late 1970s. Thereafter, in 2002, Yale University's International Center for Finance collaborated with the Syracuse Neighborhood Initiative in Syracuse

N.Y. to create a non-profit HEP program, called Home HeadQuarters.<sup>7</sup> Its purpose was to reinvigorate home ownership in depressed Syracuse neighborhoods. For the Oak Park experiment, claims were based on transaction prices (i.e., purchase and sale prices), while claims for the Syracuse experiment were based on changes in a price index. In 2011, Ohio-based EquityLock Solutions Inc. began offering HEP contracts that also linked claims to changes in local price indices.

Until relatively recently, U.S. housing busts were mainly regional, but the Great Recession (2007 – 2009) changed that, causing many to believe that this severe and prolonged compression of real estate prices might pave the way for tandem increases in the supply of and demand for innovative HEP contracts. Greater demand was expected from: (1) homeowners, seeking to safeguard the real estate values of their portfolios, (2) mortgage lenders, seeking protection from worrisome loan-to-value ratios, (3) investors, seeking synthetic real estate returns via futures and credit instruments, (4) developers, seeking protection from declining real estate values for projects under construction, (5) insurers, seeking hedges against mortgage defaults, and (6) realtors, real estate brokers, mortgage brokers, and home sellers, seeking ways to safeguard potential home buyers from further real estate price erosion.

On the other side of the HEP market, greater contract supply was expected from professional investors, seeking to increase their real estate exposures via financial products, instead of investing in physical properties. As well, insurance companies were expected to create new HEP products to meet the needs of homeowners, whose equity stakes were ravaged by the Great Recession.

Despite this initial optimism, the U.S. market for HEP contracts has been relatively weak. New alternatives have been slow in developing, and liquidity in existing markets has been shallow.

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<sup>7</sup> This contract had a 30-year maturity and one-time, up-front premium equal to about 1.5% of the protected value. Its creators felt that charging annual fees would encourage customers to drop this insurance if their home prices increased, thereby leaving the policyholder pool with only high-risk families. The loss of customers in this way could also decimate the HEP company's ability to pay claims due to the diminishing pool of invested funds.

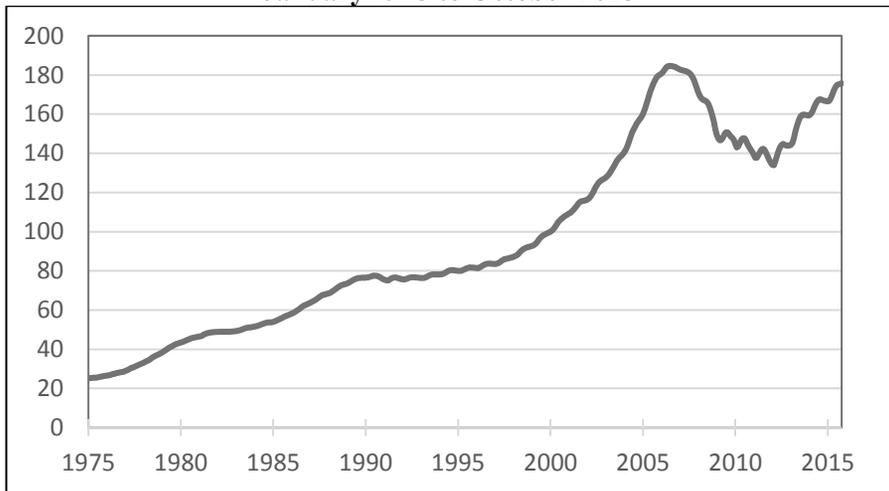
### III. WHAT ACCOUNTS FOR WEAK HEP DEMAND AND SUPPLY?

HEP markets grow fastest when there are simultaneous increases in both the supply of and demand for these contracts. Unfortunately, problems on both sides of the market have been evident.

#### A. REASONS FOR WEAK HEP DEMAND

HEP demand is inversely related to home price expectations.<sup>8</sup> It rises when expected home prices fall, due to the clear and present danger of wealth erosion, and falls when expected home prices rise, causing these fears to diminish. As Exhibit 2 shows, during the past 40 years, home prices have increased more often than they have decreased.

**Exhibit 2**  
**S&P/Case-Shiller Home Price Index**  
**January 1975 to October 2015**



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<sup>8</sup> William N. Goetzmann, Andrew Caplin, Eric Hangen, Barry J. Nalebuff, Elisabeth Prentice, John Rodkin, Matthew I. Spiegel, & Tom Skinner, *Home Equity Insurance: A Pilot Project* 4, 9 (Yale Int'l Ctr. for Fin., Working Paper No. 03-12, 2003).

Federal Reserve Bank of St. Louis, Economic Research, *Households: Owners Equity in Real Estate, Level*, (2014), accessed January 5, 2016, <https://research.stlouisfed.org/fred2/series/CSUSHPINSA/downloaddata>.

Lackluster demand for HEP insurance contracts has also been caused by sluggish home sales in the particular communities where they have been offered. Because these contracts are likely to be purchased at the same time as homes, their demand should rise and fall with home sales.<sup>9</sup> Therefore, factors that reduce the demand for homes also lessen the demand for HEP insurance contracts. Among these reasons are recessions, burdensomely high real interest rates, high property tax rates, demographic changes, and financial disincentives, such as the availability and cost of land, which cause residents to move from urban neighborhoods, where HEP experiments have been tried, to rural areas.

The demand for HEP *financial* products, such as options, forward, and futures contracts, has been as weak as the demand for HEP *insurance* products. A major cause of this weakness can be traced to homeowners' concerns about and unfamiliarity with the risk-return tradeoffs of derivative markets.

#### B. REASONS FOR WEAK HEP SUPPLY

HEP contracts are mainly supplied by investors and speculators who want to increase their real estate exposures. Insurance companies that are willing and able to manage real estate price risks are also potential suppliers. Part of the uninspired increase in HEP supply can be attributed to internal problems related to suppliers' strategies and management, but relatively high real estate transaction costs, regulations, and perceived risks are also to blame.

#### C. INTERNAL HEP COMPANY PROBLEMS

Managerial ineffectiveness and poorly constructed business plans result in over-priced policies, high administrative costs, bureaucratic red tape (e.g., causing delays in vetting claims), and contracts excessively loaded with

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<sup>9</sup> When a home is purchased, individuals have legal counsel and the advice of friends and family, which could be used to make knowledgeable decisions about these contracts. Focus groups have confirmed that potential customers feel the most important time to purchase a HEP contract is when a home is purchased. *See Id.*

unattractive features, such as high deductibles, long vesting periods, and severe restrictions on claims.

#### D. HIGH REAL ESTATE TRANSACTION COSTS

Due to the high transactions costs associated with buying and selling homes, such as brokerage fees, closing costs, and moving expenses, residential real estate markets are highly inefficient relative to their counterparts in the commodity, currency, equity, and debt markets.<sup>10</sup> Professional investors are likely to shun exchange-traded and over-the-counter (OTC)-traded HEP financial instruments due to their lack of sufficient liquidity. Among the reasons for these shallow markets are the (1) lack of readily available homes that can be inventoried and sold at a moment's notice, (2) relatively unknown relationships between residential real estate returns and those on other portfolio assets, (3) relatively high real estate price volatility, (4) paucity of hedging alternatives, and (5) inability to derive meaningful option prices due to the problematic relationship between most option pricing models and the real estate market. These markets violate important assumptions that lie behind popular contingent option pricing models, such as the Black-Scholes-Merton formula. For example, real estate: (1) prices do not move randomly – especially in the short term,<sup>11</sup> (2) transactions are not costless, (3) markets are not liquid, and (4) cash market prices and derivative market prices are difficult or impossible to arbitrage.<sup>12</sup>

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<sup>10</sup> If enough people participated, exchange markets in HEP contracts could help predict future real estate prices.

<sup>11</sup> Residential home prices display a significant degree of autocorrelation (i.e., inertia), which improves short-term forecasts but reduces the accuracy of option pricing models. See Robert J. Shiller, *Derivatives Markets for Home Prices* 4 (Nat'l Bureau of Econ. Research, Working Paper No. w13962, April 2008).

<sup>12</sup> Nevertheless, pricing models have been developed, which try to overcome these obstacles. See Robert A. Jarrow, *A Simple Robust Model for Cat Bond Valuation*, 7 FIN. RES. LETTERS 72 (2010); ALEXANDER MELNIKOV, RISK ANALYSIS IN FINANCE AND INSURANCE (Chapman & Hall 2004); James A. Boness, *Elements of a Theory of Option Value*, 72 J. POL. ECON. 163 (1974); Paul A. Samuelson, *Rational Theory of Warrant Pricing*, 6 INDUS. MGMT. REV. 13 (1965); George Constantinides, *Market Risk Adjustment in Project Evaluation*, 33 J. OF FIN. 603 (1978); Robert J. Shiller, *supra*, note 11; 3 JONATHAN E. INGERSOLL, J. E., THEORY OF FIN. DECISION MAKING (Rowman & Littlefield 1987).

## E. REGULATION AND PERCEIVED RISKS

The existence of high regulatory costs and perceived risks also explains the slow growth of HEP insurance contracts. Regulatory costs deter start-up companies from entering markets and, for those that already offer these contracts, compliance costs can substantially reduce profits. On the positive side, regulations may increase consumer confidence, thereby encouraging HEP companies to offer supervised contracts. State laws and insurance commission rules regulate companies that offer FGI contracts. As a result, an FGI company must be licensed and comply with the rules and regulations of each state in which it operates.

Expensive regulations could cause the failure of HEP insurance companies, which means a company that offers FGI contracts and fails might have survived and thrived, in the same state, if it had been permitted to offer unregulated NIFP contracts. Due to the relatively small historical sample size and multitude of possible causes of HEP company failures, econometrically pinning success or failure on differences in regulation is challenging.

Colorado-based Home Value Insurance Company (HVIC) and Ohio-based EquityLock Solutions, LLC (ELS) help frame the FGI-versus-NIFP issue. Both companies began operations in 2011, offered similar HEP contracts, and neither of them had legacy policies from the pre-Great Recession years. One major difference was HVIC was regulated as an FGI company and ELS escaped state regulation because it was deemed to offer NIFP. Despite seemingly favorable market conditions, HVIC suspended policy sales in August 2012 and received court-approved dissolution the following December. By contrast, ELS was still a going concern, as of January 2016. Differences in regulations may or may not have been a major cause of ELS's survival and HVIC's demise, but over-regulation carries associated costs, and under-regulation carries potential risks to consumers. Therefore, determining the basis on which HEP companies should be regulated has important implications.

## IV. THREE REGULATORY ALTERNATIVES FOR HEP CONTRACTS

HEP contracts are hybrids, having both insurance-like and financial-product-like features, which explains inconsistencies between states in determining the regulatory status of HEP companies and why states vary their positions over time. Currently, U.S. companies wishing to sell HEP contracts face the three major regulatory alternatives. First, if a state decides that the contract is *permissible* FGI, then the company is regulated as an

insurance company. If the contract is deemed *impermissible* FGI (i.e., not on the list of state-approved FGI contracts), then the company is prohibited from selling this product in that state, and attempts to do so would be met with cease-and-desist orders. Finally, if a state decides that the contract is NIFP, then it escapes state insurance regulations and may also escape federal regulations. The dilemma with classifying an HEP contract as *impermissible FGI* is that it inhibits the development of a market with potentially high value to the average resident homeowner. By contrast, the problem with classifying it as an NIFP product is companies offering contracts on OTC markets may avoid all regulation, thereby, leaving state residents unprotected from illicit companies and policies.

The experience of New York State's Department of Financial Services (NY DFS) provides an example of the difficulties that regulators may encounter when they try to classify HEP contracts. In 2002, NY DFS ruled that a proposed HEP contract "does not constitute insurance and contracts entered into with homebuyers pursuant to the Program will not be viewed as insurance contracts."<sup>13</sup> About four-and-a-half years later, in 2008, NY DFS changed its opinion and ruled that these contracts are impermissible FGI.<sup>14</sup> Subsequently, this new ruling was reinforced by opinions published on 2008<sup>15</sup> and 2011.<sup>16</sup>

The locus of regulatory authority for NIFP contracts depends on whether they are exchange-traded or OTC-traded products and whether they are securities or derivatives. Companies that offer exchange-traded securities or options on securities are regulated by the Securities and Exchange Commission (SEC). Those offering exchange-traded derivatives are regulated by the Commodity Futures Trading Commission (CFTC), and finally, companies that offer OTC financial contracts escape federal regulations. Rather, the rights of NIFP buyers and sellers are protected mainly by commercial law through the courts. In cases where there are disagreements as to the locus of regulatory authority, the courts decide, and

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<sup>13</sup> See N.Y. DEP'T FIN. SERV., *Re: Home Equity Protection Program*, <http://www.dfs.ny.gov/insurance/ogco2002/rg205012.htm> (accessed Jan. 1, 2016).

<sup>14</sup> See N.Y. DEP'T FIN. SERV., *Re: Home Equity Protection Plan Proposal* (2008), <http://www.dfs.ny.gov/insurance/ogco2008/rg080111.htm> (accessed Jan. 1, 2016).

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* This decision focused on a HEP contract offered by a non-profit organization. The ruling confirmed that the contract was, indeed, insurance.

they have relatively wide discretion in determining what is and is not an insurance product.

FGI companies must meet all state licensure requirements and obey the statutes and rules that are passed by state legislatures and, subsequently, promulgated and enforced by state insurance departments/commissions.<sup>17</sup> Among the most important requirements are minimum capital and contingency reserve levels, aggregate and single counterparty risk limitations, and exposure-to-equity ratios. Even though HEP companies that offer OTC products may escape almost all regulations, their policyholders have enforceable rights under state and federal contract laws, making courts and the nation's judicial system (rather than insurance commissions) the major checks and balances on these NIFP-types of HEP contracts.

#### V. MATERIAL INTEREST<sup>18</sup>: RISK TRANSFER VERSUS RISK TRANSFORMATION

HEP contracts can be used to transfer or transform fortuitous risks. *Transferring* home price risk means *buying* protection against home price reductions. *Transforming* it means *buying and/or selling* this price protection to increase, decrease, eliminate, or otherwise alter the risk-return tradeoffs of residential real estate exposures. Transferring risks implies possession of an underlying material interest, but material interest has an important added function, which is to prevent Individual A from purchasing an insurance policy on Individual B's home, which would allow Individual A to benefit from Individual B's misfortune and, possibly, incentivize Individual A to cause the misfortune.

FGI products are designed to *transfer* home price risks from customers to insurance companies, which concentrate the risks of dispersed

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<sup>17</sup> Most state regulations focus on insurance sellers, but policy buyers also have responsibilities, such as disclosing all risks that are known at the time a contract is initiated. Publically traded companies that issue financial instruments do not face this requirement.

<sup>18</sup> The origins of material interest can be traced to the 18th and 19th centuries, when Anglo-Saxon nations created legislative restrictions on gambling. For years prior to that, contracts did not require material interests or indemnification to qualify as "insurance." See Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237 (1996), <https://www.law.upenn.edu/fac/thbaker/Tom-Baker-On-the-Genealogy-of-Moral-Hazard.pdf>; see also Geoffrey W. Clark, *Betting on Lives: The Culture of Life Insurance in England: 1695 – 1775* (Manchester Univ. Press, 1999).

policyholders and then manage them, in aggregate, mainly by means of policy diversification (geographic, demographic, and temporal), reserve provisions, owners' equity, reinsurance, derivatives, deductibles, and managed pools of invested premiums. Most FGI customers: (1) have relatively unsophisticated financial skills, (2) infrequently (if ever) mark their insurance contracts to market, (3) rarely make decisions about whether to hedge or unhedged their home equity positions, and, (4) generally, want to free themselves from frequent investment decisions regarding their homes. Paying insurance premiums allows these individuals to protect their equity stakes against downside home price risks while simultaneously enjoying the benefits of upside price potential.<sup>19</sup> In this respect, FGI contracts are like financial put options.

By contrast, NIFP contracts are designed for investors and speculators who wish to *transform* home price risks. In contrast to insurance companies, which concentrate risks, NIFP companies widely distribute them among financial counterparties. Risk transformers are best viewed in the context of optimizing the return on diversified portfolios of assets, which means they are not the focus of state insurance commissions.

## VI. FGI, INDEMNIFICATION, AND THE USE OF PRICE INDICES

Ideally, an FGI contract should fully indemnify the contract holder for fortuitous losses, while simultaneously offering no opportunities to earn profits or incur net losses. This goal can only be accomplished if the contract ties customer claims to the fair market purchase and sales prices of a home, but doing so creates problems that could threaten the financial sustainability of any company offering HEP contracts, which would curtail the growth of this industry. In short, states that require full indemnification for a HEP contract to be considered FGI could be making "the best" an enemy of "the good."

HEP companies, such as EquityLock Solutions, argue that the use of price indices is evidence that its policies are financial (not insurance) contracts because homeowners can have material interest in their homes but not in real estate price indices. They buttress this argument with the fact that full indemnification cannot be guaranteed because it is possible for a protected home's price to change independently from the housing price index.

These arguments are unconvincing on four grounds. First, a declining local real estate price index implies relative reductions in the value

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<sup>19</sup> Shiller & Weiss, *supra* note 2.

of all properties in that area. Even homes that appreciate in value (e.g., due to renovations, refashioning, improvements, enlargement, or historical significance) when price indices fall are affected by declining average home values because their sales prices would have been higher in rising markets.<sup>20</sup> Second, because they have maximum payouts, even HEP contracts that tie claims to transactions prices fail to fully indemnify contract holders, once the maximum payout is exceeded (more about this later). Therefore, only contracts with no maximum payouts can fully indemnify customers under all price-change scenarios. Third, each homeowner has, at least, a partial material interest in a local price index. Finally, the use of transaction prices encourages collusion, deceit, and asymmetric information problems between homebuyers and sellers, which could lead to the failure of companies offering these contracts (more about this later). As a result, states that automatically classify contracts offering price-index-linked HEP claims as *NIFP* emasculate their abilities to protect residents from ill-conceived and illegitimate providers.

#### A. A CLOSER LOOK AT HEP INDEMNIFICATION

Exhibit 3 shows payoff profiles for an individual who has a long real estate position and owns a HEP contract with a 25% cap on claim payments. This position is equivalent to owning a hybrid security with a (1) long home position, (2) long, at-the-money put option, and (3) short, out-of-the-money (by 25%) put option. For a homeowner, the short put is the speculative part of this financial hybrid, and it is technically inconsistent with, what is normally thought of as, *insurance*. The short put's purpose is mainly to reduce potential claims facing FGI companies and, also, to reduce the policy premium. To minimize the importance of this speculative component, the short put's strike price would be set as low as possible.

Exhibit 3A assumes the HEP payout is tied to the percentage change in a home's market value (HEP-CHV), and Exhibit 3B assumes the contract is tied to a percentage change in the housing price index (HEP-IND).<sup>21</sup> The HEP-CHV payoff profile, which is shown in Exhibit 3A, is the discontinuous line labeled A–B–C–D, and the HEP-IND payoff profile is the discontinuous line labeled A'–B'–C'–D', which is shown in Exhibit 3B. Due to the

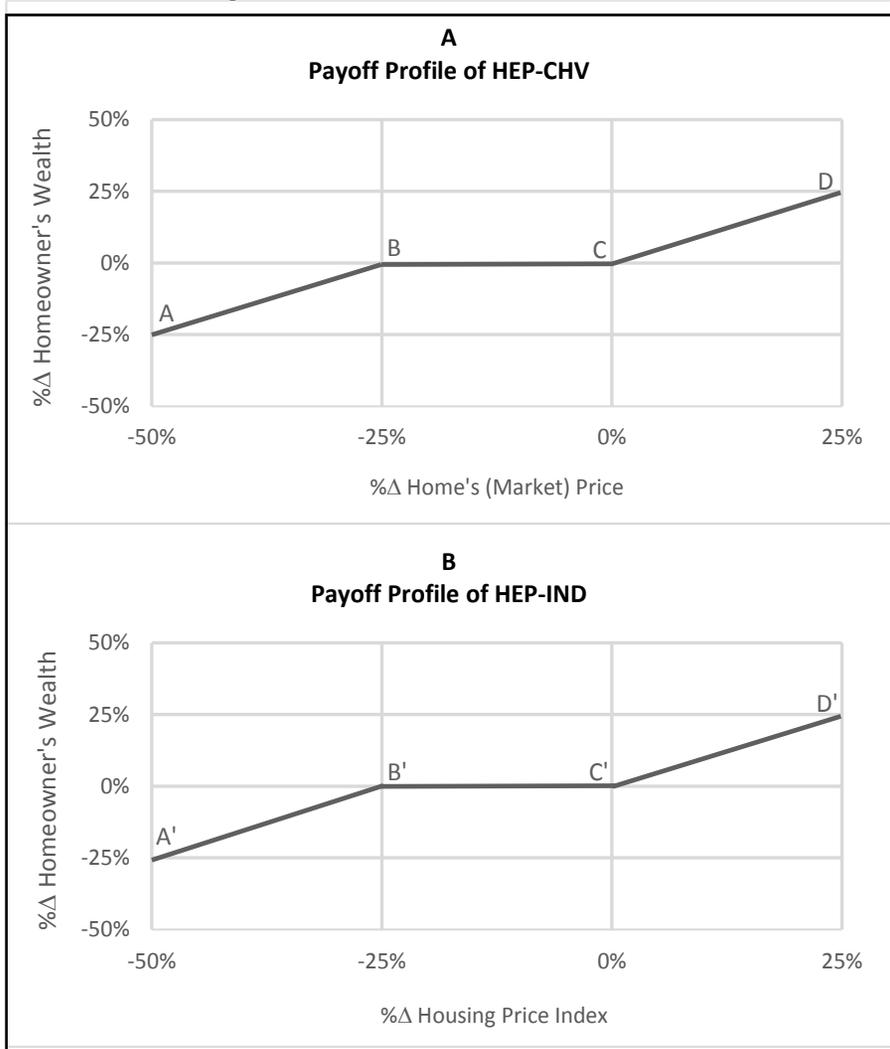
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<sup>20</sup> This reasoning is consistent with NY DFS' written opinion, which changed its position on whether HEP contracts were NIFP or FGI. See N.Y. DEP'T FIN. SERV., *supra* note 14.

<sup>21</sup> To simplify the graphs, these examples assume that the home is 100% financed.

maximum payout limit (e.g., 25%), neither contract provides complete indemnification relative to its underlier price (see segments A–B in Exhibit 3A and A'–B' in Exhibit 3B). At the same time, both contracts allow owners to enjoy capital gains when home prices rise (see segments C–D in Exhibit 3A and C'–D' in Exhibit 3B).

**Exhibit 3**  
**Relationship between HEP-CHV and HEP-IND Contracts**



An important conclusion to draw from Exhibits 3A and 3B is that distinctions between FGI and NIFP, which seem to be based on

indemnification, are actually distinctions about whether the maximum payout on a HEP contract is sufficiently large to be called *indemnification* because, once the maximum payout percent is reached, indemnification stops.

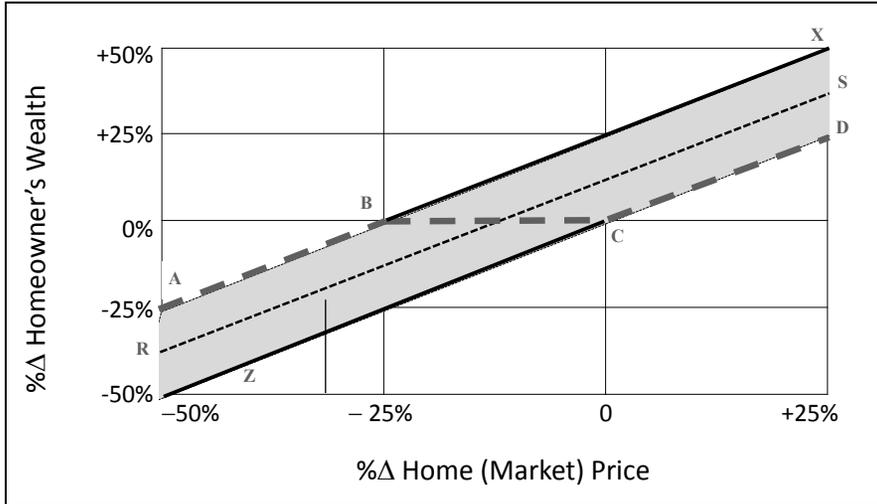
## VII. ADVANTAGES OF USING HOME-PRICE-INDEXED HEP CONTRACTS

Linking HEP contracts to home price indices has both social and individual advantages, such as: (1) encouraging home maintenance, improvements, and repairs, (2) enabling existing homeowners to purchase these contracts, (3) permitting individuals to make claims without selling their homes, and (4) reducing illicit customer claims.

### A. PRICE-INDEXED HEP CONTRACTS ENCOURAGE HOME MAINTENANCE, IMPROVEMENTS, AND REPAIRS

In Exhibit 4, the payoff profiles for the HEP-CHV and HEP-IND contracts provide illuminating insights when both of them are evaluated relative to changes in a home's current market price. The HEP-CHV contract has the same asymmetric payoff profile (A–B–C–D) shown in Exhibit 3A. By contrast, the HEP-IND contract now has a symmetric payoff profile (like a long forward contract), which shifts to the left as the price index falls and shifts to the right as it rises. Therefore, if the price index falls, the HEP-IND payoff profile changes, for example, from Z–D to an interior line, such as R–S (see Exhibit 4).

**Exhibit 4**  
**Payoffs When Changes in a Home's Price and the Price Index Are Not Perfectly Correlated**



If there was a perfect, one-for-one inverse relationship between changes in home prices and changes in housing price indices, the payoff profile for HEP-IND would be identical to the payoff profile of HEP-CHV, namely, A–B–C–D in Exhibit 4. By contrast, if these prices were not perfectly correlated, the payoff profile labeled A–X would be the left-side limit to which the HEP-IND contract could move, and it would be reached once the price index fell by 25% or more. The payoff profile labeled Z–D would be the right-side limit of the HEP-IND contract, which would be reached when price index remained the same or rose.

In the range of prices between B and C, changes in the price index vary between –25% (i.e., the maximum payout) and positive infinity. If price index falls by a greater percentage than the market value of a home, the wealth of the HEP-IND contract owner rises (see the gray area above B–C in Exhibit 4). Similarly, in the range B–C, if a home's market value falls by a greater percentage than the price index, the wealth of a HEP-IND contract owner falls (see the gray area below B–C in Exhibit 4).

An important conclusion to draw from Exhibit 4 is HEP-IND contracts promote behavior that enhances social welfare because owners are over-indemnified only when the market values of their homes fall by less than the price index. Therefore, added compensation comes only by *beating the average*, which encourages overall home care and maintenance.

B. PRICE-INDEXED HEP CONTRACTS CAN BE PURCHASED BY  
EXISTING HOME OWNERS

Individuals who already own homes and those purchasing them both have material interests, but potential problems can arise when HEP contracts are sold to the former group because reliable market values for the protected assets may be lacking in the absence of actual home sales. If this problem were insurmountable, then HEP contracts might be restricted to only individuals who are purchasing homes.

One way to offer these contracts to existing homeowners is by using mutually agreeable, independent appraisers to determine home values;<sup>22</sup> another is to use housing price indices to inflate or deflate property values from their original purchase prices to the current index-adjusted values and, then, use the differences as the basis for claims. Therefore, the HEP payout per home would equal the percentage change in the price index times the protected value.

C. PRICE-INDEXED HEP INSURANCE CONTRACTS ALLOW CLAIMS  
AT CONTRACT MATURITY, WITHOUT HOME SALES

HEP insurance contracts could be written to allow claims (1) only when a home is sold, (2) at contract maturity, or (3) any time before the contract matures. The differences are important.

1. Allowing claims only upon the sale of a home

Restricting HEP insurance claims solely to contract owners who sell their homes at a loss has two major advantages. First, it clearly establishes the contract as a risk-transfer vehicle that protects against unfortunate, fortuitous life events. Second, the requirement significantly reduces the liquidity risks facing HEP insurance companies because it moderates claims by broadly distributing them over time (i.e., temporal diversification).

2. Paying claims at contract maturity

Allowing individuals to make claims when their contracts mature raises questions regarding how a home's market price can be determined in the absence of a free market sale. As previously mentioned, one solution is

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<sup>22</sup> Shiller and Weiss, *supra* note 2, at 25.

to use independent external appraisers, and another is to tie claims to changes in price indices.

A major advantage of allowing individuals to make claims on HEP contracts at maturity, without the need to sell their homes, is it improves the long-term hedging effectiveness of these contracts.<sup>23</sup> Consider an individual who simultaneously purchases a \$100,000 home and 10-year HEP contract. To finance the transaction, suppose he/she borrows \$90,000 and makes a \$10,000 down payment. At maturity, if the home's market value falls to \$95,000 and the price index falls to 95, the homeowner is unlikely to sell his/her home and relocate in order to collect just \$5,000 in claims. Transaction costs are too high. As a result, if the contract is renewed at the home's current market value (i.e., \$95,000), the individual's wealth would fall by \$5,000. By contrast, if this HEP owner could make a claim without selling his/her home at maturity, s/he would receive \$5,000 in claims and then be able to re-protect the home for \$95,000, thereby retaining his/her equity at the original level of \$10,000.

Because selling a home and moving to a new location can be costly, the sales price must fall considerably to offer attractive opportunities. At a minimum, the home price reduction needs to exceed the monetary costs (e.g., realtor's fees, moving expenses, and refurbishments) and the emotional costs that come from leaving familiar friends, schools, and social networks. Evidence in the market for mortgage insurance indicates that a home's market value needs to fall at least 10% to 25%<sup>24</sup> below the outstanding

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<sup>23</sup> This practice is common for non-delivery derivative contracts, such as those purchased and sold on the Intercontinental Exchange (ICE).

<sup>24</sup> Luigi Guiso, Paola Sapienza, & Luigi Zingales, *Moral and Social Constraints to Strategic Default on Mortgages* 5 (Nat'l Bureau of Econ. Research, Working Paper No. 15145, 2009), <http://www.nber.org/papers/w15145.pdf> (accessed Jan. 1, 2016). Neil Bhutta, Jane Dokko, & Hui Shan, *The Depth of Negative Equity and Mortgage Default Decisions* 43 (FINANCE AND ECONOMICS DISCUSSION SERIES 2010-35, 2010), <http://www.federalreserve.gov/pubs/feds/2010/201035/201035pap.pdf>, (accessed Jan. 1, 2016); Christopher L. Foote, Kristopher Gerardi, & Paul S. Willen, *Negative Equity and Foreclosure: Theory and Evidence*, 64 J. URB. ECON. 234 (2008); EXPERIAN-OLIVER WYMAN, *Understanding Strategic Default in Mortgages Part I* (Experian-Oliver Wyman Market Intelligence Report 2009 Topical Report Series, 2009); EXPERIAN-OLIVER WYMAN, *Strategic Defaults in Mortgages: Q2 2011 Update, Market Intelligence Reports* (2011 Topical Report Series, 2011), <https://www.experian.com/assets/decision-analytics/reports/oliver-wyman-strategic-default-2011.pdf> (accessed Jan. 1, 2016); EXPERIAN-OLIVER WYMAN,

mortgage value to trigger a strategic default, which occurs when individuals, who can afford to pay their mortgages, walk away from them because the market values of their homes are less than the outstanding mortgage balances (i.e., they have negative equity).<sup>25</sup>

### 3. Allowing claims any time before contract maturity

Allowing policyholders to make claims any time before contracts mature changes a HEP policy from a risk transfer agent to a risk transformer. Such flexibility also complicates the efforts of these companies to predict future claim liabilities and, thereby, results in higher premiums, which reduce the amount of protection purchased.<sup>26</sup> Furthermore, permitting such flexibility distances these HEP policies from the fortuitous, unfortunate life-events they are supposed to address.

#### D. PRICE-INDEXED HEP CONTRACTS CAN REDUCE ILLEGITIMATE CUSTOMER CLAIMS

HEP insurance companies can be the victims of asymmetric information problems, as well as collusion and deceit.<sup>27</sup> Asymmetric information occurs when one party to a transaction has more or better information than his/her counterpart. Collusion and deceit can occur when individuals sell their homes to collaborators at unjustifiably low prices, make illicit HEP claims, and then split the ill-gotten gains.

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*Strategic Defaults in Mortgages: Q2 2010 update* (Market Intelligence Reports, 2010 Topical Report Series, 2010), <https://www.experian.com/assets/decision-analytics/reports/strategic-default-report-2-2010.pdf> (accessed Jan. 1, 2016).

<sup>25</sup> Strategic defaults can also be caused by *double-trigger* events, such as negative equity in combination with pessimistic expectations about housing prices. Therefore, even if negative equity is the primary cause of a strategic default, it may not be the only cause.

<sup>26</sup> It is virtually impossible for a HEP company to hedge the risk of contract cancellations. While the average duration of a contract might be estimated, its variance is tied closely to whether home prices rise or fall, thereby leaving these companies vulnerable to significant over-estimations or under-estimations of revenues.

<sup>27</sup> See Karl E. Case, Robert J. Shiller & Allen N. Weiss, *Mortgage Default Risk and Real Estate Prices: The Use of Index-Based Futures and Options in Real Estate* (Cowles Foundation Discussion Paper No. 1098, 1995), <http://cowles.yale.edu/sites/default/files/files/pub/d10/d1098.pdf>; Shiller & Weiss, *supra* note 2.

### 1. Asymmetric information

Two major types of asymmetric information are adverse selection, which occurs before a contract has been signed, and moral hazard, which occurs afterwards. Both cause potential problems for HEP insurance companies.

#### a. *Adverse selection*

Home sellers are likely to have better information than FGI companies about the fair market values of their particular houses and also about specific community risks. For instance, individuals who feel they overpaid for their homes or live in areas with substantial downside price risks (e.g., due to increasing crime rates) are likely to be HEP buyers. Conversely, those who feel they paid bargains prices for their homes or live in areas with substantial upward price potential are unlikely buyers of these contracts. Therefore, asymmetric information introduces selection biases into the pool of potential HEP insurance customers, weighting the population toward those most in need, which increases claim risk and renders statistical analyses problematic – especially when predictive validity and reliability depend on customer pools having normal distributions. These added risks increase customer premiums, which reduce the amount of protection purchased.

#### b. *Moral hazard*

Moral hazard occurs when individuals behave differently after they are insured because they no longer bear the full consequences of their actions and also when they can influence both the odds and size of their potential claims. On the demand side, HEP contracts encourage individuals to pay above-market prices for their homes, knowing that their downside market risks are hedged. In fact, losses on properties that have been owned for long periods of time have been traced to their owners paying too much for them.<sup>28</sup> On the supply side, HEP contracts reduce sellers' incentives to negotiate the best prices in down markets because they know that losses, up to the maximum limits, will be covered by insurance. HEP contracts also

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<sup>28</sup> Between 1990 and 2006, about 50% to 60% of the homes sold in the Melbourne, Australia area were estimated to have incurred losses due to initial overpayments. See Dag Einar Sommervoll & Gavin Wood, *Home Equity Insurance*, 3 J. FIN. ECON. POL'Y 66, 75 (2011).

discourage homeowners from performing routine maintenance on protected properties, and they encourage fanciful decorating, which could reduce a home's sales price. One way companies could try to protect themselves from this moral hazard problem is by requiring evidence of minimum maintenance, but such arrangements are difficult to enforce because objective verification of needed repairs may not be possible and the timing of such work is open to discretion.<sup>29</sup> Another alternative is for HEP insurance companies to retain the right of first refusal, which would allow them to purchase and then resell homes whose sales prices seem unjustifiably low.

c. *Using a price index to solve collusion, deceit, and asymmetric information problems*

The major benefit of using transaction prices to determine HEP claims is the clear line of sight they provide between changes in the equity an owner has at risk and changes in the value of the protection contract. The major disadvantage is these contracts encourage collusion, deceit, and asymmetric information problems. One solution to this problem is to base claims on home price indices because companies that supply these contracts do not need to appraise or monitor the protected homes. Price indices can reduce these problems by disconnecting HEP claims from property sales prices. Therefore, regardless of how far below the market price a home is sold, claims can be made only if the housing price index (over which the individual has no power) falls from beginning to end.

Consider the problems of collusion and deceit. Suppose a home with an initial market value of \$100,000 is purchased simultaneously with a HEP contract having a maximum payout of 25%. Suppose further that, when the home is sold (after the vesting period), its market value remains the same, but the owner tries to deceive the HEP company by selling the house to an accomplice for a below-market price equal to \$85,000. Exhibit 5 assumes that all the proceeds from this collusive act (\$15,000) revert, in the form of a kickback, to the original homeowner. It compares the results if claims are based on the property's transaction prices versus a home price index, which rises by 10%, stays the same, or falls by 10%, 15%, and 40%.

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<sup>29</sup> Shiller and Weiss, *supra* note 2, at 25,27.

### Exhibit 5

#### Payoffs to Collusion and Deceit: Transaction-Price versus Price-Indexed Contracts\*

Contract Initiation					
Purchase price	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Price Index	100	100	100	100	100
Contract Termination					
<b>%Δ Home Price Index</b>	<b>+10%</b>	<b>0%</b>	<b>-10%</b>	<b>-15%</b>	<b>-40%</b>
Return to the collusive seller when transaction prices are used					
Purchase price	-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000
Unfair sales price	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000
Claim <i>Purchase price – sales price</i>	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Kickback	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
<b>Net gain for the seller</b>	<b>+\$15,000</b>	<b>+\$15,000</b>	<b>+\$15,000</b>	<b>+\$15,000</b>	<b>+\$15,000</b>
Return to the collusive seller when a price index is used					
Purchase price	-\$100,000	-\$100,000	-\$100,000	-\$100,000	-\$100,000
Unfair sales price	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000
HEP Claim	0	0	\$10,000	\$15,000	\$25,000**
<i>If %ΔPI &lt; 0, then claims = %Δ price index × protected value; otherwise, claims = 0.</i>					
Kickback	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
<b>Net gain for the seller</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$15,000</b>	<b>+\$25,000</b>
<p>* Assets and claims are positive values. Liabilities are negative values. This example ignores mortgage amortization.</p> <p>** The maximum payout is 25%. Therefore, the price index can fall no lower than 75 when prices decline by 25% or more.</p>					

Notice that the transaction-price alternative locks in a \$15,000 gain, but the price-index-alternative gains nothing if the price index rises or stays the same. It progressively earns positive returns as the price index falls, reaching a maximum gain of \$25,000 when the percentage change in the price index reaches the payoff limit of 25%. Exhibit 5 shows that it is possible for the seller to gain more under the price-index alternative than the

transaction-price alternative only if the price index declines by a greater percent than the home’s market price.

HEP companies could eliminate this profit loophole by basing claims on the higher of a home’s market price *or* housing price index. Exhibit 6 shows the results from this hybrid method. Notice how losses to the colluding seller are the same as Exhibit 5 until the price index falls by a greater percent than the sales price, at which point the hybrid method reduces the sellers’ gains from what would have occurred using the price-index method.

**Exhibit 6**  
**Payoffs to Collusion and Deceit if Claims are Based the Higher of the Sales Price or Price-Indexed Price\***

Contract Initiation					
Purchase price of home	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Contract Termination					
%Δ Home Price Index	+10%	0%	-10%	-15%	-40%
Price index-value	\$110,000	\$100,000	\$90,000	\$85,000	\$75,000**
Unfair sales price	\$85,000	\$85,000	\$85,000	\$85,000	\$85,000
HEP Claim	\$0	\$0	\$10,000	\$15,000	\$15,000
<i>Claims = higher of (1) (sales price – purchase price) or (2) if %ΔPI &lt; 0, (%Δ price index × protected value), otherwise, claims = 0</i>					
Kickback	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
<b>Net gain to collusive seller</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,000</b>	<b>\$15,000</b>	<b>\$15,000</b>
* Assets and claims are positive values. Liabilities are negative values. This example ignores mortgage amortization. ** Maximum payout is 25%					

Customer perceptions about the fairness of the hybrid method might be improved if the HEP contract required the insurer and customer to share the burden when a home’s sales price fell by a greater percent than the price index. Employing deductibles into these contracts would also reduce or eliminate collusion, deceit, and moral hazard problems because it would force homeowners to have *skin-in-the-game*, thereby preventing them from extracting the full benefits of their unethical acts.

## VIII. DISADVANTAGES OF USING HOME-PRICE-INDEXED HEP CONTRACTS

Using home price indices is one of the keys to successfully offering and developing HEP contracts and markets. For this reason, serious attention has been paid to improving price index methodology<sup>30</sup> and narrowing index coverage to increasingly tapered geographic areas, but until these indices can pinpoint each particular home, the chances for full (100%) indemnification will remain small.

The indemnification problem is not unique to the housing market and relates to *basis risk*, which exists when changes in the value of a protected asset or liability are not equal and opposite to changes the value of the protection contract. As basis risk rises, the likelihood that a hedge will fully indemnify the contract owner falls. For example, a U.S. company with a €20 million accounts receivable maturing in November might use a September or December futures contract to hedge because November futures contracts do not exist. Similarly, oil producers may try to hedge the value of their committed sales with futures contracts offered on the Chicago Mercantile Exchange, where the Brent oil benchmark is used, even though the blend of oils in this benchmark does not fully match the producers' specific oil output.

Basis risk can cause homeowners to be either under-compensated or over-compensated whenever the housing price indices used do not have one-to-one, inverse relationships with the protected homes' sales prices. Under U.S. Financial Accounting Standards (FAS), a transaction qualifies as a *hedge* if it is identified, as such, at inception and achieves its goal within a predefined range.<sup>31</sup> FAS rules do not differentiate hedge transaction from

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<sup>30</sup> See Shiller, *Derivative Markets for Home Prices* 4, 9-10 (Yale Univ. Econ. Dep't, Working Paper No. 46; Cowles Foundation Discussion Paper No. 1648, 2008); Karl E. Case, Robert J. Shiller, & Allan N. Weiss, *Mortgage Default Risk and Real Estate Prices: The Use of Index-Based Futures and Options in Real Estate* (Nat'l Bureau of Econ. Research, Working Paper No. 5078, 1995).

<sup>31</sup> Under U.S. Financial Accounting Standard 133, a hedge must be declared when it is purchased (i.e., at inception), and the correlation coefficient between the asset and hedge must range between -0.80 and +1.25, which means any gains above 25% or losses below 20% are treated, for financial statement purposes, as non-hedge transactions. See FIN. ACCT. STANDARDS BOARD, *Financial Standards No. 133: Accounting for Derivative Instruments and Hedging Activities*, [http://www.fasb.org/jsp/FASB/Document\\_C/DocumentPage?cid=1218220124631&acceptedDisclaimer=true](http://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1218220124631&acceptedDisclaimer=true) (accessed Jan. 1, 2016).

investment and speculation transactions based on not whether they guarantee 100% indemnification. In terms of payoff profiles, hedge contracts are identical to insurance contracts.

If FAS logic were applied to HEP contracts, a company would be classified as offering FGI if: (1) each buyer's intention, at inception and until maturity, was to *hedge* the value of his/her home equity position, and (2) indemnification was permitted to vary within reasonable, predetermined limits. Ensuring that HEP customers are hedging (i.e., transferring risks) and not speculating (i.e., transforming risks) can be accomplished by requiring material interest from contract initiation to termination or maturity.

Whether the HEP contract is effective can be evaluated by its *payout efficiency*, which is the: (1) portion of paid claims that go to individuals who incur losses on the sale of their homes<sup>32</sup> and/or (2) the extent to which homeowners who incur losses are compensated. Therefore, a 0.0 measure implies that individuals who incurred losses on their home sales were not compensated at all by HEP policies, and a 1.0 measure implies full indemnification.

A study in Melbourne, Australia,<sup>33</sup> using metropolitan and neighborhood housing price indices to determine HEP payout efficiency, found that between half and slightly less than two-thirds of the people who experienced home equity losses would have been compensated by these contracts.<sup>34</sup> Payout efficiency improved when contract maturity was lengthened.

To implement price-indexed FGI contracts, U.S. states could establish allowable limits for payout efficiency, perhaps beginning with U.S. FAS standards and then adjusting them with experience. New FGI companies might be required by state insurance commissions to show evidence that threshold payout efficiencies could be reached before they sell their contracts. Such requirements would promote the creation of better home price indices and also encourage the development of private market solutions that protect home equity. Because the level of basis risk depends heavily on the index chosen, results could be back-checked, periodically, to

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<sup>32</sup> Remember that, in a declining market, HEP contracts would also pay claims to individuals whose homes rose in price or remained constant.

<sup>33</sup> Australia's housing market is similar to the United States in that approximately 70% of families own homes and home equity constitutes about 40% of the average family's wealth.

<sup>34</sup> Sommervoll & Wood, *supra* note 28. This study did not allow for moral hazard and adverse selection, which could significantly affect the study's conclusions.

make sure the best-in-class housing price indices were being used. Earnings or losses that fell outside the predetermined bounds could be taxed as ordinary income.

A. REGULATORY ARBITRAGE AND PRICE-INDEXED HEP CONTRACTS

The attributes of HEP contracts are endogenous, in the sense that companies can configure them to gain or circumvent state regulation. Problems arise when these attributes meet the letter of the law but not its intent. One way these companies can engage in regulatory arbitrage is by establishing themselves as NIFP companies in states that permit it and then transforming their financial liabilities into insurance liabilities via special purpose vehicles (i.e., transformer companies). Companies may gain NIFP status by linking their contracts to home price indices, which do not guarantee full indemnification and, therefore, do not meet the pure definition of *insurance*. Once established as NIFP companies, they try to conduct business in other states, either by offering NIFP contracts directly or by using surplus lines brokers.

B. TRANSFORMER COMPANIES

Transformer companies can convert financial risks into insurance risks or vice versa. They may be independent from the HEP firms with which they deal or created and capitalized by the HEP companies, themselves. Therefore, a company can (1) sell its contracts as financial products in one state, (2) create an FGI company in a different state, country, or offshore center that has lower standards, and (3) then use this FGI company as evidence to potential and existing customers that its contracts are safe. Problems can arise when this type of regulatory arbitrage creates only the illusion of safety. The likelihood of this happening is relatively high when the standards regulating the relationships between in-state NIFP companies and out-of-state FGI companies, which are business-to-business (B2B) transactions, are weaker than the standards regulating in-state business-to-customer (B2C) transactions.

Resident victimization could result if the buyers of these FGI contracts are unlikely to understand or take the time to discover that an out-of-state FGI company is owned or controlled by the in-state NIFP firm and, therefore, offers little additional protection. Similarly, problems could arise when the out-of-state FGI company's policies, procedures, and financial structure would not pass in-state insurance standards. One way states can

defend residents against potential abuses of transformer companies is to allow them only for licensed insurers in state-authorized locations.

### C. SURPLUS LINES INSURANCE AND BROKERS

Surplus lines insurance permits a state's residents to purchase insurance from out-of-state property and casualty insurance companies via licensed in-state surplus lines brokers. The out-of-state insurers bear the real estate price risks and collect premiums for these services. Surplus lines brokers are used when a type of property or casualty insurance is not offered by any insurance company in a particular state. Therefore, an insurance company in State A can sell its policies in States B, C, and D by offering a unique insurance product and then finding surplus lines brokers in other states that are willing and able to sell it. The use of surplus lines brokers eliminates the time, effort, and expense of gaining licenses in these other states.<sup>35</sup> If surplus lines brokers are used for purposes of regulatory arbitrage, states can try to control this practice by restricting transactions to licensed FGI companies that are located in pre-approved states, countries, and offshore centers.

## IX. CONCLUSION

HEP contracts can transfer home price risks from those who are least able to evaluate them to those who are best able. These contracts can more fully develop capital markets by providing a low-cost and efficient means of shorting the housing market, thereby making real estate prices more efficient and reducing the likelihood of speculative distortions, such as price bubbles. Less distorted prices, lower transactions costs, and greater liquidity act to encourage capital flows toward real estate markets, thereby increasing aggregate investments. Even in cases where the correlation between the homes being insured and the real estate price index used for hedging is not exact, HEP products can bring substantial value to many homeowners who are seeking ways to protect the home equity they have accumulated.

Linking FGI contracts to home price indices is a practical and effective way to develop the HEP market while protecting both HEP insurance customers and companies. Price indexed FGI contracts: (1) encourage home maintenance, improvements, and repairs, (2) more fully open the HEP market to existing homeowners, (3) offer protection to

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<sup>35</sup> If a state insurance regulator determines that the contract offered is impermissible FGI, then it cannot be sold in that state via surplus lines brokers.

individuals who do not wish to sell their homes, and (4) help defend FGI contract suppliers from customer collusion, deceit, and asymmetric information problems. At the same time, states can retain more rights than they relinquish, which enables them to protect resident homeowners, who are the likely victims of illicit HEP companies and contracts.

For all the years that HEP insurance contracts have been offered, states have wrestled with regulating them appropriately, taxing them fairly, and allowing these markets to function effectively. Solving regulatory issues related to HEP contracts is not a singular cause because these debates will continue to surface, as they have in the past, when financial instruments (e.g., weather derivatives, credit default swaps, and catastrophe options) were invented and offered for sale.

