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# Making Property Derivatives Work

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**R A D A R L O G I C**  
I N C O R P O R A T E D

## Who Is Radar Logic?

**Radar Logic was created to provide a functional basis for property derivatives and to produce a full set of tools to make those derivatives valuable to the broadest set of potential end users.**

▪ **We want to:**

- Make real estate *tradable* by creating an index that is the basis for a liquid and useful property derivatives market
- Allow real estate and financial professionals to invest in real estate markets, manage risk and obtain more accurate insight into property markets without owning physical assets

## What Radar Logic Does

- **Produce single *Daily Prices* for 25 defined geographical areas**
  - Collect all available data for transaction closings from public records (county or municipal)
  - Turn raw data into a reliable metric
    - Screen out erroneous or non-arm's length transactions
    - Apply proprietary and transparent algorithms to compute Daily Prices based on established patterns in the historical data
  - **The Daily Price** = a single value (price per square foot: "ppsf") for residential real estate in a specific location (Metropolitan Statistical Area: "MSA") on a given day
  
- **Provide the tools and support needed to power the *Residential Property Index™ (RPX™)* market**

## What Radar Logic Does

- **Enable in-depth market knowledge through *advanced analytics***
  - Powerful tools that help customers identify and understand trends
  - Comparison of multiple markets and data strings
  - Extensive historical database with daily updates
  - Ability to understand basis risk within MSAs
  
- **Give expert insight through *research and commentary***
  - *RPX Monthly Housing Market Report* by Jonathan Miller, EVP/Director of Research
  - Ongoing commentary based on RPX data down to MSA level
  - Historical comparisons, regularly updated
  - Special reports on timely real estate topics

## Why Residential Property Derivatives Are Important

- **The real estate market is large, illiquid, unique and not tradable in a traditional sense**
  - Current value of U.S. residential housing > \$23 trillion\*
  - Housing represents approximately 24% of Consumer Price Index\*\*
  - Housing is the largest component of the net worth of U.S. households (approximately 36%)\*
  
- **There has been no way to profit from changes in the underlying value of real estate without actually owning physical property**
  - Housing stocks, builder stocks, REITs, CDOs or MBSs = “next best thing”
  
- **Investing in real estate has been limited to a long view on the market**
  - Very limited vehicles allowing investors to take a negative view

\*Flow of Funds Accounts for the United States, Federal Reserve, (September 2007, Table B. 100); includes nonprofit organizations

\*\* CPI-U statistic as of December 2006

## Why Residential

- **Reliable data sources**

- Important to maintain data accuracy

- **High volume of actual transactions**

- High enough transaction volume so that outliers do not skew Daily Prices

- **Substantial underlying market value**

- \$23.2 trillion (according to Federal Reserve)

- The highest value of any real estate asset class

- **Easily measurable**

- ppsf the accepted metric by real estate professionals and investors

**Residential property is now tradable through RPX**

## Why RPX is Different

- **RPX is..**

The RPX logo consists of the letters 'R', 'P', and 'X' in a bold, blue, sans-serif font. The letters are spaced out and positioned to the right of the main text area.

- **Inclusive**

- **Frequent**

- **Granular**

- **Transparent**

## Why RPX is Different

**R P X**

### ▪ Inclusive

#### ➤ All legitimate residential transactions considered

- Single family & multi-family, condos, new home sales, and foreclosure resales
- Daily Prices are published exactly 63 days after transaction date to account for delays between the closing date and the date we receive the data → allows for highest possible inclusion

#### ➤ A trade is a trade: the market is the market

- “Outliers” are not ignored
- Every transaction has equal weighting
- If a region is experiencing growth in certain types of properties, that region’s price will reflect this change (i.e., increased sales of new homes and condominiums)

## Why RPX is Different

The RPX logo consists of the letters 'R', 'P', and 'X' in a bold, blue, sans-serif font. Above the letters is a horizontal blue bar with a gradient effect, transitioning from a darker blue on the left to a lighter blue on the right.

### ▪ Frequent

➤ **Daily publication of 1-day, 7-day and 28-day prices** for all 25 MSAs as well as a composite

➤ **Visibility of day-to-day market movement**

- Daily closings → daily publication
- No time averaging
- Ability to view trends and seasonality in local markets
- Other indexes publish monthly, quarterly or annually
  - No surprises resulting from less frequent publication

## Why RPX is Different

**RPX**

### ▪ Granular

- **Coverage of 25 United States MSAs and a 25-MSA composite**
  
- **Ability to segment markets** by:
  - Property type
  - Property size (square footage)
  - County
  - Zip code
  - Purchase price range
  - Date range

## Why RPX is Different



### ▪ Transparent

#### ➤ Full disclosure of methodology

- Not a “black box”: full explanation available on Radar Logic website
- Traders can understand what they are trading
- Investors can make informed decisions

### ▪ Result: **A robust, liquid and tradable index that mirrors the actual cash housing market**

## **Who Will Benefit**

- **Developers**
- **Owners**
- **Investors**
- **Financial Firms**

## Who Will Benefit

### ▪ Developers

- Protect against slow sales and weakening markets
- Insure against rising land prices before development
- Tailor the hedge based on specific geographic locations

Ex: A home developer is currently building several properties in Phoenix, AZ. In order to lock-in expected Home Price Appreciation (HPA), it takes a short position on the Phoenix index. This allows the company to hedge some of its risk in the event of a market downturn. The developer can also make more reliable income projections based on the “floor” it now has on price appreciation.

## Who Will Benefit

### ■ Owners

- Protect against a drop in asset values
- Separate market exposure from asset ownership
- Participate in multiple markets

Ex: A REIT owns property that is located in the Northeast region of the U.S. It wants to diversify and has assessed that certain markets in Southern California are undervalued. It would like to lock-in profits in this region without having to sell any of its Northeastern properties and establish an investment base in Southern California. To do so, the REIT “buys” MSAs in Southern California and “sells” the Northeastern MSA.

## Who Will Benefit

### ▪ Investors

- Indirectly incorporate real estate into a portfolio
- Take strategic positions on rising/falling house prices
- Index-linked bonds for inflation protection

Ex: A fixed income asset manager is concerned about inflation risk and also wants to participate in housing inflation. He can invest in RPX and incorporate property values into his portfolio, while at the same time accounting for some of the influence that inflation has on home prices and on the bonds he manages.

## Who Will Benefit

### ■ Financial Firms

- Broaden investment opportunities
- Leverage assets
- Mitigate portfolio risk

Ex: A bank has an active lending business to developers and homeowners, generating fees and interest income. Its risk managers decide that the geographic concentrations in its portfolio are becoming too concentrated. Rather than reduce new activity in a region or rebalance the portfolio through asset sales, risk managers can rebalance geographic exposure through the use of property derivatives.

## What Will Make This Market Successful

- **Superior Benefit/Utility**
- **Breadth & Depth**
- **Liquidity**

## What Will Make This Market Successful

### ■ Superior Benefit/Utility

#### ➤ Advantages of property derivatives and the RPX market

- Effective, direct hedging of real estate exposure
- Accessible investment opportunities
- Participation in market ups and downs without the delays and costs associated with physical property
- Granular applications based on property type, county, zip code, etc.

#### ➤ Enthusiasm for real estate investment tools

- Property asset “insurance” viewed as a necessity
  - Ex: Developer can obtain higher LTV ratios
- Preference for indirect investment – taking positions easier than owning property or securities
- Property derivatives are becoming mainstream in U.S. (as in U.K. and other parts of the world)

## What Will Make This Market Successful

### ▪ Breadth & Depth

#### ➤ Multiple market makers

- Reliability and accuracy of derivative prices
  - More dealers making trades results in more accurate price fixing
- Indication of future direction of underlying market
  - Forward prices can be used for forecasting

#### ➤ Diversity in products

- Total return swaps and forwards → new products will be developed as time goes on, based on market demand
- Investors can participate in specific property markets (e.g., all 25 MSAs, zip codes, counties, property types, etc.)
- Negotiated OTC contracts = flexibility of desired time frames, tenor and nominal investments

## What Will Make This Market Successful

### ▪ Liquidity

- **Benefits of not having to own physical property**
  - Lower transaction costs
  - No ownership costs
  - No need for property management
  - No waiting for a property to sell or come to market
  
- **Attracts parties for both sides of a trade → induces balance**
  - Both buyers and sellers actively participating
  
- **Quick and easy transactions**
  - Ability to dynamically participate in a *liquid* market

## Current RPX Market

**R P X**

### ▪ Who is Trading?

- Morgan Stanley & Co. Incorporated
- Lehman Brothers Inc.
- Merrill Lynch, Pierce, Fenner & Smith Incorporated
- Deutsche Bank Securities Inc.
- Goldman Sachs & Co.
- Bear Stearns & Co.

## Current RPX Market

**R P X**

### ▪ Current Value of RPX Market

➤ After our initial seven weeks of trading, **volume in derivatives based on RPX has exceeded a quarter of a billion dollars**

- Flows represent good two-way activity
- Participation has begun to include a variety of end users

## Going Forward

### ■ We will continue to:

- **Support the derivatives market** through superior data offerings to dealers and end users
- Introduce **new Daily Prices** in response to customer interest (e.g., New York Condominium Price)
- **Enhance the functionality of our analytics** to make the RPX more usable and relevant to our customers
- Publish Jonathan Miller's *RPX Monthly Housing Market Report*
- Create and publish **data-specific research** (e.g., evaluating and ranking MSAs in terms of their data attributes)
- **Expand data sources** to capture the most complete, up-to-date view of the market
- Explore the **commercial real estate market**, including determining the right "metric" and greatest end-user value
- Work with all market participants to **develop the standard for tradable real estate**

## Contact Us

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