This document outlines and compares fixed rate resale formulas, index based resale formulas, and appraisal based resale formulas.
Resale Formula Options for
Long Term Affordable Homeownership Programs

Introduction:
In many communities, as the price of housing has grown, the subsidies used to help families get into homeownership have grown as well. Where programs once had to provide only a small amount of assistance to help families find the cash necessary to purchase a home, they now must invest significant subsidies to fill the gap between what families can afford and the price of market rate housing.

And, as public subsidies have increased and inclusionary housing has become a more common tool in developing affordable units, policy makers and practitioners want to make sure the money invested in that affordable housing benefits more than one family and have turned to resale restrictions as a means to that end.

Resale restricted homeownership has been around for a long time so there are many experienced programs across the country that have tried out different formulas over the years. Today there are three basic types of formulas that seem to be most common, and that pass the test in terms of being both easy to understand and administer. Those formulas are:

a. Fixed rate resale formulas,
b. Index based resale formulas, and
c. Appraisal based resale formulas.

This document provides a basic overview of those three formulas, the technical language and a numeric example for each formula as well as some of the advantages and disadvantages of each. It is important to note that the formulas represented below calculate the “formula price” for a resale restricted home. However, most resale restrictions also include language that states that the purchase option price is the “lesser of” the formula price, and some other measure of market value, such as the current market value of the home. In falling markets, it is this other measure ends up determining the maximum price for which a homeowner may sell their resale restricted home.
# Fixed Rate Resale Formula

<table>
<thead>
<tr>
<th>Fixed Rate Formula Summary</th>
<th>Fixed Rate Formula Language &amp; Example</th>
<th>Advantages of the Fixed Rate Formula</th>
<th>Disadvantages of the Fixed Rate Formula</th>
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</thead>
<tbody>
<tr>
<td>In a Fixed Rate Formula, the homeowner's initial affordable price (what they paid to buy their home – or the “base price” in the formula language) is increased over time by a fixed annual percentage of either simple or compound interest. While programs can choose any interest rate, the most common are between 1.5% – 2% per year.</td>
<td>The Formula Price shall be equal to: (a) The amount of Homeowner’s Base Price (which the Program and Homeowner agree is $_______) plus (b) The Base Price times ___% simple (or compound) interest X the number of years in the Home.</td>
<td>1. Extremely easy to administer, 2. May be calculated at any time and can easily be projected, 3. Allows for slow and steady increase in value, and 4. May be compounded or stepped to encourage long term tenure etc.</td>
<td>1. There is no relationship between the condition of the home and the price, 2. Simple interest fixed rate formulas do not reward long term tenure, and 3. Depending on market conditions, in weak markets, fixed rate formulas may provide a greater than market rate increase in price.</td>
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Example:
(a) Base Price = $150,000  
(b) Simple interest of 2%/year X 8 years = 16%.  
(c) Base Price X 1.16 = $150,000 X 1.16 = $174,000
## Index Based Resale Formula

<table>
<thead>
<tr>
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<tr>
<td>In an Indexed Based Formula, the homeowner’s initial affordable price (what they paid to buy their home – or the “base price” in the formula language) is increased over time by the % change in a published index over time.</td>
<td>The Formula Price shall be equal to:</td>
<td>1. Assuming interest rates are stable and the Program uses the AMI index, this formula ties price to changes in median income, which keeps the home theoretically affordable,</td>
<td>1. Figures are released periodically and the timeframe for release may vary,</td>
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<td>(a) The amount of Homeowner’s Base Price (which the Program and Homeowner agree is $_______) plus</td>
<td>2. May be calculated at any time, and</td>
<td>2. There is no relationship between the condition of the home and the price,</td>
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<td>(b) An amount equal to the Homeowner’s Base Price multiplied by the total percentage of increase, since the date this Agreement was signed, in the ___________ Index, as determined and published by the ___________ or such successor agency as may publish such index.</td>
<td>3. Easy to administer.</td>
<td>3. In weak markets, increases in index may outstrip increases in housing market values,</td>
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<td>(c) In no event may the average annual increase exceed ___%.</td>
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<td>4. Changes in the way the index is calculated can mean spikes/dips in the index, and</td>
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<td>(d) The parties agree that when the Agreement was signed the _______Index number (the Original Number) was _______.</td>
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<td>5. The AMI index tends to be erratic, remaining flat for several years and then increasing substantially in other years.</td>
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</tbody>
</table>
closely to wages (as opposed to investment income etc. that all ends up in the AMI figures) and generally changes more steadily than does AMI.

To determine the percentage of increase in the Index, the Original Number shall be subtracted from the most recently published Index number, and the remainder shall then be divided by the Original Number.

Example:
(a) Base Price = $150,000
(b) AMI for a HH of 4 at the time of Initial Purchase = $48,000
(c) AMI for a HH of 4 at the time of resale = $56,000
(d) % Change in AMI = (56,000 – 48,000)/48,000 = 16.67%
(e) Capped at an average of 3% per year = 16.67/8 years = 2.1%/year (therefore use change in index)
(f) Base Price X 1+change in index = $150,000 X 1.167 = Formula Price of $175,050.
## Appraisal Based Resale Formula

<table>
<thead>
<tr>
<th>Appraisal Based Formula Summary</th>
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<tr>
<td>In a Appraisal Based Formula, the homeowner's initial affordable price (what they paid to buy their home – or the &quot;base price&quot; in the formula language) is increased over time by adding to it a specified percentage of the increase in the home's market value. The increase in market value is measured by market appraisals at the time of initial purchase and the time of resale. While Programs can choose any percentage to allocate to the Homeowner's price at resale, the most common percentage is 25%.</td>
<td>The Formula Price shall be equal to: (a) The amount of Homeowner's Base Price as stated below, plus __<strong>% of the increase in appraised market value. (b) Program and Homeowner agree that the Base Price is $</strong>____. (c) The increase in appraised market value is calculated as: I. The appraised market value at the time of resale, minus II. The appraised market value at the time of initial purchase, which the Program and the Homeowner agree was _________. Example: (a) Base Price = $150,000</td>
<td>1. Allow homeowners to realize a modest percentage of the increase in market value of their specific home, 2. Provides a modest reward for improvements, 3. Provides a modest penalty or reward for condition, and 4. Depending on how the formula is written, an appraisal based resale formula can protect the Program against losses in falling markets.</td>
<td>1. Inconsistent appraisals can make program hard to implement and create conflict, 2. Cannot calculate price without commissioning an appraisal, and 3. In hot markets, may not adequately protect affordability.</td>
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<tr>
<td>(b)</td>
<td>Appraised Value at the time of Sale = $300,000</td>
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<td>(c)</td>
<td>Initial Appraised Value = $215,000</td>
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<tr>
<td>(d)</td>
<td>Increase in appraised market value = $85,000</td>
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<td>(e)</td>
<td>Homeowners Share of Increase = $85,000 X 25% = $21,250</td>
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<td>(f)</td>
<td>Base Price of $150,000 + Homeowner’s Share of Increase of $21,250 = Formula Price of $171,250</td>
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Note: The language above refers to “increases” in appraised market value. Some Programs specify a different formula that is used if market values fall.