The Case for the Ratchet Mortgage

Mortgage Contract Design Conference

May 21, 2015
The TVA Ratchet Bonds
Coupon Floats Only Downward

<table>
<thead>
<tr>
<th></th>
<th>6.75s of 2028 (TVC)</th>
<th>6.50s of 2029 (TVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td>June 1998</td>
<td>May 1999</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>$575MM</td>
<td>$525MM</td>
</tr>
<tr>
<td><strong>Lockout</strong></td>
<td>5 years</td>
<td>5 years</td>
</tr>
<tr>
<td><strong>Reset Frequency</strong></td>
<td>Annual</td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Reset Formula</strong></td>
<td>30-Yr CMT + 94 bps</td>
<td>30-Yr CMT + 84 bps</td>
</tr>
</tbody>
</table>
Tracking the Rate Resets

1999 6.50s (TVE)
Tracking the Rate Resets

Rate (\%)

Year

'97  '98  '99  '00  '01  '02  '03  '04  '05  '06  '07  '08  '09  '10  '11  '12  '13  '14  '15  '16  '17

1999 6.50s (TVE)
Tracking the Rate Resets

Rate (%)

Year

1999 6.50s (TVE)
Tracking the Rate Resets

Year | Rate (%)
--- | ---
'97 | 6.50s (TVE)
'98 | 7.00
'99 | 7.50
'00 | 8.00
'01 | 8.50
'02 | 9.00
'03 | 9.50
'04 | 10.00
'05 | 10.50
'06 | 11.00
'07 | 11.50
'08 | 12.00
'09 | 12.50
'10 | 13.00
'11 | 13.50
'12 | 14.00
'13 | 14.50
'14 | 15.00
'15 | 15.50
'16 | 16.00
'17 | 16.50
Tracking the Rate Resets

- Year: 1999
- Rate (%): 6.50s (TVE)
Tracking the Rate Resets

Year

Rate (%)

1998 6.75s (TVC)
1999 6.50s (TVE)
30-Year Treasury

'97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17

2.0 3.0 4.0 5.0 6.0 7.0 8.0

'97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17
TVA To Reset 1998 Series D (TVC) PARRS Power Bonds

The interest rate on the Tennessee Valley Authority 1998 Series D Putable Automatic Rate Reset Securities bonds, which are traded on the New York Stock Exchange under the symbol “TVC”, will be reset from 3.830 percent to 3.550 percent on June 1, 2015.
Introducing the Ratchet Mortgage*
A One-Way ARM

Rate tied to a published index
Say 10-year Treasury + 170 bps

Ratchets only downward
If reset formula results in rate exceeding current rate, then
current rate prevails

Resets periodically
Or when formula crosses pre-specified threshold (say 50 bps decline)

*Co-invented by Bert Ely & Andrew Kalotay
How the Ratchet Mortgage Benefits Homeowners

Automatic savings when rates decline
  No agonizing over when to refinance
No refinancing costs
  Refi costs can add up in conventional mortgages
Initial rate only slightly higher than that of conventional fixed-rate mortgage
  Fair rate of floater with period cap of 0 bps can be determined by standard fixed income analytics
Low-Income Borrowers Not Subject to Refi Credit Check

Rate reduction is automatic

Consumer-friendly attributes should appeal to Congress and regulators
How Lenders Benefit

Longer and more predictable profit stream
  Higher escrow income; lower credit losses as mortgages age

Less origination volatility
  Reduced need for ramp-up during refinancing booms and for hedging mortgage servicing rights
  Fewer refis lessen compliance burden

Customer ‘stickiness’
  Facilitates cross-selling other banking products

Can be funded with ratchet bonds
  Same index, lower spread locks in profit
In Summary

Fixed rate mortgages are problematic

Borrowers:
Transaction costs from frequent refinancings add up
Declining credit precludes benefiting from lower rates

Lenders:
Refinancings cause earnings volatility
Customer migration is common

Solution: Ratchet Mortgages

Borrowers:
Refis automatic, credit-check not required

Lenders:
More durable customer relationships, more cross-selling opportunities, lower origination volatility, stable earnings