

```
(* Calculating the barbell return for 2015-6-2 US rates *)  
(.514 * (3.02)) + (.486 * (1.61)) // N
```

```
2.33474
```

```
(Calculating the duration of a 30 year par bond at 3.02 % *)  
((1.0302) / (.0302)) * (1 - (1 / ((1.0302) ^ 30))) // N
```

```
20.1403
```

```
(* Calculating the duration of a 15 year par bond at 2.5 % *)  
((1.025) / (.025)) * (1 - (1 / ((1.025) ^ 15))) // N
```

```
12.6909
```

```
(* Calculating the duration of a 5 year par bond at 1.61 % *)  
((1.0161) / (.0161)) * (1 - (1 / ((1.0161) ^ 5))) // N
```

```
4.84404
```

```
(* Verifying that the weights for the 15 vs 5 + 30 has a zero duration *)  
12.6909 - (.514 * (20.1403)) - (.486 * (4.84)) // N
```

```
-0.0134542
```