

# Loan Interest Rate Report for HPSK72WA7R

## Loan Details

<b>Loan ID:</b>	HPSK72WA7R
<b>Borrower Age:</b>	69
<b>Monthly Income:</b>	₹50,432
<b>Loan Amount:</b>	₹124,440
<b>Credit Score:</b>	458 (Very Poor)
<b>Loan Term:</b>	60 months
<b>DTI Ratio:</b>	68%
<b>Education:</b>	Master's
<b>Employment:</b>	Full-time
<b>Co-Signer:</b>	Yes

**Calculated Interest Rate:** 11.75%

The interest rate was determined based on a risk-adjusted pricing model considering the following factors:

### 1. Credit Score (Critical Risk Factor)

- **Score:** 458 (Very Poor)
- **Impact:** +10.00% to base rate
- **Justification:** Deep subprime (below 500) indicates severe credit risk.

### 2. Debt-to-Income Ratio

- **DTI:** 68%
- **Impact:** +4.50% adjustment
- **Justification:** Far exceeds 43% maximum for qualified mortgages.

### 3. Loan-to-Income Ratio

$$LTI = \frac{\text{Loan Amount}}{\text{Annual Income}} = \frac{124,440}{50,432 \times 12} = 20.6\%$$

- **Impact:** +1.25% (High relative to income)

### 4. Employment Stability

- **Months Employed:** 15 (1.25 years)
- **Impact:** +1.75% adjustment
- **Justification:** Short tenure increases job instability risk.

## 5. Co-Signer Mitigation

- **Impact:** -7.50% reduction
- **Justification:** Strong co-signer credit profile offsets primary borrower risk.

## 6. Positive Factors

- Master's degree (-0.50%)
- Full-time employment (-0.50%)
- No dependents (-0.25%)

## Rate Calculation Breakdown

$$\begin{aligned} \text{Base Rate} &= 3.00\% \\ + \text{Credit Score Adjustment} &= +10.00\% \\ + \text{DTI Adjustment} &= +4.50\% \\ + \text{LTI Adjustment} &= +1.25\% \\ + \text{Employment Adjustment} &= +1.75\% \\ - \text{Co-Signer Benefit} &= -7.50\% \\ - \text{Education Benefit} &= -0.50\% \\ - \text{Employment Type Benefit} &= -0.50\% \\ - \text{No Dependents Benefit} &= -0.25\% \\ \hline \text{Final Rate} &= 11.75\% \end{aligned}$$

## Risk Comparison Benchmark

Factor	Risk Level
Credit Score (458)	Critical Risk
DTI (68%)	Severe Risk
Loan-to-Income (20.6%)	Elevated Risk
Employment Tenure (15 mos)	High Risk
Co-Signer Present	Significant Mitigation