

IMPs  
 North/South vulnerable  
 Dealer: South

North	South
♠ KQ65	♠ A83
♥ K95	♥ AQ64
♦ Q6	♦ A7
♣ KJ87	♣ AQ52

South opens 2NT. North uses Stayman and finding no 4-4 fit, asks for aces, finding all four. **Is this a good grand slam?**

Forget about squeezes for the moment. What is the chance that both majors break 3-3 (so that 7NT makes?) What is the chance that at least one major breaks (so that 6NT makes?)

Chance that one suit breaks 3-3:

$$\frac{\binom{6}{3} \binom{20}{10}}{\binom{26}{13}} \approx 35.53\%$$

Chance that each of two suits breaks 3-3:

$$\frac{\binom{6}{3} \binom{6}{3} \binom{14}{7}}{\binom{26}{13}} \approx 13.20\%$$

Chance that at least one major breaks 3-3:

$$2 \times 35.53\% - 13.20\% \approx 57.86\%$$

What about additional squeeze chances? 6NT makes on an automatic squeeze if one defender has 4+ cards in each major. (Duck a diamond to rectify the count, as you learned in Squeezes 101.) The chance of this happening is

$$\frac{\sum_{h=4}^6 \sum_{s=4}^6 \binom{6}{h} \binom{6}{s} \binom{14}{13-h-s}}{\binom{26}{13}} \approx 6.31\%$$

Not likely, but not negligible either.

7NT makes on a positional squeeze if either spades are 3-3 and LHO has 4 hearts + ♦K, or if hearts are 3-3 and RHO has 4 spades + ♦K. These squeezes are also easy — just make sure to execute a Vienna coup. Either of these events is equally likely; the chance of either one is

$$\frac{\sum_{h=4}^6 \binom{6}{h} \binom{6}{3} \binom{13}{9-h}}{\binom{26}{13}} \approx 4.60\%.$$

There is no 3-suit squeeze for 7NT — for example, if East holds both majors plus the diamond king, he can safely abandon hearts.

**Chance of making 6NT:** 57.86% + 6.31% = 64.17%

**Chance of making 7NT:** 13.20% + 2 × 4.60% = 22.40%.

So it is clear that you want to be in 6NT.