IMP Odds

by Kit Woolsey, *Arlington, Va.*

The cost of a losing action at IMPs can be considered as the difference in imps between your actual result and what you would have scored if you had instead taken the winning action. This cost may be in imps lost, or in imps not won, or in a combination of the two, depending on what happens at the other table. For example, if you fail to bid a makable vulnerable major-suit game, you have cost yourself 10 imps whether or not the game was bid at the other table: if it was bid, you are minus 10 instead of even; if not, you are even instead of plus 10. Either way, the cost is 10 imps.

Here, the cost of the losing action is the total-point difference between the two possible scores, expressed in imps (620 - 170 = 450, for 10 imps). However, because of the sliding IMP scale, this is so *only* when either your actual result or your potential result is achieved at the other table. If your teammates took a 300-point save, the cost of missing the vulnerable game increases to 12 imps, since you would lose four instead of winning eight. If your teammates somehow scrounged up plus 110 of their own, the cost would be down to five imps; you win seven imps instead of 12. In general, if the result at the other table falls between your actual and potential scores, the cost will be *greater*, while if the other-table score falls outside this range the cost will be *less*. To put it another way, total points lost are most costly when they cause you to lose imps instead of winning them on the board; they are least costly when, in consequence, you just lose *extra* imps, or fail to gain extra imps.

It is well known that the IMP odds on a vulnerable game are 10-to-6 in favor, since down one costs six imps, and failure to bid costs 10 imps (non-vulnerable, the odds are 6-5). So, with,
♠ AQJxx ♡ Kxx ◇ Kxx ♣ xx,
I would chance a vulnerable game opposite a limit raise (but would pass if non-vulnerable): I estimate game to be a slight underdog.

Of course, these odds assume no doubles, and only a one trick set if the game goes down. The point I am trying to make is that they also assume something else—that the only possible results at the other table are game bid or game not bid. If, instead, your teammates take a 300 save, the IMP odds increase to 12-to-5 in favor of bidding the game (if you make ten tricks you gain eight imps for +620/-300, instead of losing four imps for +170/-300: a 12-imp profit; if you make only nine tricks, you lose nine imps for -100/-300, instead of four imps for +140/-300: five imps extra loss). And if your teammates somehow buy the contract and score plus 110, the odds actually drop to 6-to-5 *against* bidding the game (ten tricks gets you 12 imps for +620/+110, instead of seven imps for +170/+110: five imps extra for bidding game; nine tricks results in a push for -100/+110, instead of six imps for +140/+110: six imps lost).

The IMP odds on a major-suit small slam start exactly even—you cost yourself 13 imps either way if you go wrong (11 if non-vulnerable). This, of course, assumes no sacrifice at the other table. But if your teammates go for 900, the IMP odds become 17-to-8 in favor of bidding a vulnerable slam. And if they get out for 500, the odds become 16-to-9 against your bidding slam.

So, if you are considering bidding a marginal North-South slam against which East-West may take a save, you should bounce right into the slam and hope for the best when the save figures to go for more than the value of your game. When the save figures to go for less than the value of your game, you should be happy to buy the contract at any level. This holds true, please note, even when your opponents would never dream of taking a sacrifice with the East-West cards. It is the possibility of *your teammates'* saving that alters the normal IMP odds.

The IMP odds on bidding a vulnerable grand slam are 17-to-13 against (14-to-11 if non-vulnerable). So, if you hold,
♠ AQJxxx ♡ AQx ◇ AQx ♣ x,
on the auction:

You	*Partner*
1 ♠	3 NT*
4 NT	5 ◇
5 NT	6 ♠
?	

*balanced forcing raise, 13-15

you should bid the grand, even though it is probably on a finesse. The additional possibilities of partner's having the right kings, or the queen of clubs, or a ditch on a long red suit, increase the odds well above the 17-to-13 mark. These odds assume, of course, that your opponents will bid at least the small slam (surely a valid assumption in the above example). If those underbidders somehow stop in game, the IMP odds on our grand slam shrink to 26-to-4 against (and we've all been there before)! Suppose you hold,
♠ Kxxx ♡ Qxx ◇ x ♣ AKxxx,
on the following auction:

You	*Partner*
♠ K x x x	♠ A x
♡ Q x x	♡ A K x
◇ x	◇ A x x
♣ A K x x x	♣ x x x x x

You	*Partner*
1 ♣	2 ♣*
3 ◇**	3 ♡
3 ♠	4 NT
5 ◇	5 NT
?	

*inverted raise
**splinter bid

With clubs the trump suit, partner's five notrump is clearly just a general grand-slam try. Should you go? Partner could hardly have less, and he might be even better. However, you have had a very lucky auction so far—good methods for this deal, combined with your questionable, but fortunate, decision to splinter. If partner has the hand above, the opponents may well not get to slam. And if they don't, 26-to-4 odds are clearly too much to lay. Personally, I would bid the grand only if I felt my opponents at the other table were excellent slam bidders.

In competitive bidding, an understanding of IMP odds is of the utmost importance. We shall examine some common situations that confuse many players, including experts, about the odds they are getting on their bids.

Game Sacrifices

Consider the following problem. Non-vul vs. vul., you hold,

♠ K 10 ♡ x x x ◇ A J x x ♣ K J x x.

LHO opens one heart; partner jumps to two spades, weak; RHO bids four hearts. Let's assume that four spades will go for 300 (you haven't seen some of my partner's weak jump overcalls at favorable vulnerability!), and let's also assume that the opponents won't bid on to five if you save, since you have too many high cards to hope for that. If your teammates bid four hearts, the IMP odds on the save are 9-to-8 against (a 400-point loss, nine imps, when four hearts goes down; a 320-point gain, eight imps, when four hearts makes). Those odds, 9-to-8 against, seem favorable, since four hearts will make more often than not.

But your teammates may not bid the game; they may stop at three, or even sell to three spades. Let's look at the full IMP odds table:

[See top of next column]

Suddenly, the odds on the save don't look so good any more. We have enough defense to have a fair shot at beating four hearts. And the chart tells us that this should be sufficient, since we may be giving as much as 2-to-1 odds if we take the save.

TABLE 1

Your Teammates' Result

	Game	Partial	+300	+50
Game Makes:				
You Save	+8	-4	0	-6
You Pass	0	-10	-8	-11
Game Fails:				
You Save	-9	-4	0	-6
You Pass	0	+6	+9	+4
Odds on Save:	**win 8 lose 9**	**win 6 lose 10**	**win 8 lose 9**	**win 5 lose 10**

Slam Sacrifices

This is an area in which virtually all players, including most experts, are completely confused about the odds. On favorable vulnerability, you hold,

♠ J x ♡ x x x ◇ x x x ♣ A J 9 x x.

You	*LHO*	*Partner*	*RHO*
—	1 ♡	4 ♠	5 ♡
Pass	6 ♡	Pass	Pass
?			

Let's suppose, for the sake of argument, that six spades will go for 500. Do you save? "Naturally," says the average expert. "I can't risk letting them play six hearts when I have such a cheap save available—that would cost 14 imps when the slam makes. It's always worth bidding one level higher in this situation—I have almost 3-to-1 odds in favor of the save."

Well, now that we know how to analyze the true odds, let's examine this situation. At the other table, the possible contracts are six hearts, six spades doubled, five hearts (most unlikely), and five spades doubled. Here is the chart of the IMP odds for the slam save:

TABLE 2

Your Teammates' Contract

	They Play 6 ♡	They Play 5 ♡	They Double 6 ♠	They Double 5 ♠
Slam Makes:				
You Save	+14	+5	0	-5
You Pass	0	-13	-14	-15
Slam Fails:				
You Save	-12	+4	0	-5
You Pass	0	+13	+12	+9
Odds on Save:	**win 14 lose 12**	**win 18 lose 9**	**win 14 lose 12**	**win 10 lose 14**

So much for those 3-to-1 odds! Only in the least likely situation (your teammates buy it for five hearts) are you getting much over even money on your save. And if your teammates double five spades (which is quite likely), the odds are 14-to-10 *against* saving. Your potential for a second club trick, combined with the possibility of partner's producing a stray trick (maybe even cashing the ace of spades, on this guessing auction) makes you a favorite to defeat the slam, in my opinion, so the save is not the percentage bid.

Part-score Doubles

Most players are afraid to double the opponents into game unless they have an absolute lock, for fear of losing a game swing on a part-score deal. It is certainly correct to be more cautious under these circumstances, but examination of the IMP odds will show that an absolute lock is far from necessary. You hold, as South with both sides vulnerable,

♠ K x x x x ♡ x x ◇ A Q x ♣ x x x.

WEST	NORTH	EAST	SOUTH
—	1 ♣	1 ◇	1 ♠
2 ◇	2 ♠	Pass	Pass
3 ◇	Pass	Pass	?

You have already given up on game, and three spades could be in jeopardy on a bad day. Your defensive prospects are excellent, since you plan to lead your doubleton heart and are likely to get a heart ruff; so a three-spade call is out of the question. The problem remains, should you double three diamonds? I would estimate that down one is the most likely result; let's say three diamonds will make 25%, go down one 50%, go down two 25%. Is this good enough to risk doubling them into game?

Let's look at the IMP odds. We have only two contracts at the other table to consider, three spades (making three, let us say), and three diamonds (not doubled, of course, since your opponents aren't as sophisticated as you); but there are three possible results:

TABLE 3

Your Teammates' Contract

	They Defend 3 ♠	They Play 3 ◇
3 ◇ makes:		
You Double	-13	-11
You Pass	-6	0
3 ◇, down 1:		
You Double	+2	+3
You Pass	-1	0
3 ◇, down 2:		
You Double	+8	+7
You Pass	+2	0

If your teammates play three diamonds, your double of three diamonds costs 11 imps 25% of the time, when the contract makes; the double gains three imps 50% of the time, for down one: and it gains seven imps 25% of the time, for down two. You are just barely better off to double—half an imp on average, scarcely worthwhile. However, that picture changes when you add the possibility that your teammates might be minus 140 against a spade contract at the other table. Then, your double costs only seven imps when three diamonds makes (since you would lose six imps anyway), gains three imps for down one, and six imps for down two: your average gain is nearly three imps. So, on balance, the double will gain substantially.

Part-score Competition

Once again, most players are too timid in this area, for fear of losing a lot of imps on one hand. Let's look at a typical example. You hold as South, both sides vulnerable,

♠ Q9xxx ♡ xxx ◇ Axx ♣ Kx.

West	North	East *	South
—	—	1 ♡	Pass
2 ♡	Pass	Pass	?

Do you balance? Sure it's risky, but let's look at the IMP odds. It might not make any difference; two spades could go down one with two hearts making, or the opponents may push to three hearts making. On the plus side, you may have a double part-score swing, or push the opponents one level too high, in which case failing to balance will cost five or six imps. On the minus side, you might go for 500, so balancing could cost nine imps. These seem like quite acceptable odds to me, since the chance of turning a minus score into a plus score by balancing looks far greater than that of going for a number. And the chance that neither side can make eight tricks is virtually nil, so you are unlikely to be turning a plus into a minus. The strange part about this is that many players who won't balance at IMPs *will* at matchpoints. Yet, to balance at matchpoints, while probably correct, is *much more* dangerous, since the opponents will double much lighter; if you go for 200 it is a zero, and that is far more likely than going for a big number at IMPs.

It will be noted that many of the bids indicated by analysis of the IMP odds seem to be matchpoint-oriented bids, such as not taking a "safety save" against a marginal slam, and making a tight part-score double. This is quite correct—the construction of the IMP scale, with the larger swings de-emphasized, makes proper IMP tactics in competitive auctions much closer to matchpoints than most people realize. If we were playing total points, the odds would change drastically on many of the situations presented in this article.

One final consideration: many of the recommended actions, while maximizing expected imps in the long run, risk a large loss on any one deal. In a particular match, special circumstances (you are playing a substantially weaker team; or you are well ahead) may dictate that you avoid a large adverse swing on any one hand; after all, you are trying to win the match by any amount, not to win as many imps as possible. Then, the "safer" actions should certainly be chosen.

However, in a long match against equal competition, it is best to make the bid that gives you the best IMP odds. It is just as important to try to take advantage of opportunities to win imps as it is to avoid losing them. Maximizing your IMP odds is the best way to seize those opportunities.

What's New in Bridge

Non-Jump Splinters

by Marvin French, *San Diego, Cal.*

What is the meaning of the four-club bid in auctions like these?

(a)

Opener	*Responder*
1 ♠	2 ◇
2 ♠	3 ♡
3 ♠	4 ♣

(b)

Opener	*Responder*
1 ♡	1 ♠
3 ◇	3 ♠
4 ♣	

(c)

Opener	*Responder*
1 ♡	1 ♠
1 NT	3 ◇
3 ♡	4 ♣

Whatever the meaning, four clubs can hardly show a suit. The natural bid with a 5-4-4-0 or 4-4-4-1 hand would be three notrump, not four clubs.* Perhaps four clubs is a vague sort of cue-bid, accepting partner's suit as trump. If so, it implies short clubs. Let's make a definite rule that the four-club bid *promises* short clubs and see if any benefit results.

There is a maxim that bidding three suits, including a jump, promises a singleton or void in the remaining suit. This generally accepted rule is a liability with many hands. Marshall Miles gives this example:

♠ K3 ♡ AKQ76 ◇ 72 ♣ AKQ4.

The bidding goes:

You	*Partner*
1 ♡	1 ♠
3 ♣	3 ♠
?	

Miles suggests that a raise to four spades at this point should promise a singleton or void in diamonds, so he would reluctantly bid four clubs instead. A better way to handle this situation is to say that a four-spade bid would *deny* short diamonds. With short diamonds, opener must bid four *diamonds*, a non-jump splinter, showing something like,

♠ K76 ♡ AKQ65 ◇ 8 ♣ AQ104.

Non-jump splinters are fourth-suit bids at the four or five level, when partner has made bids in just one suit (he may have bid notrump somewhere along the line, but his only suit bids

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*This is surely true in sequence (b), since opener, if strong enough to drive to the four level in the face of a misfit, would presumably have opened with a strong two-bid. In the other two sequences, however, responder may want to bid four clubs with a variety of distributions when he is *too strong to bid three notrump*. We do not agree with all of the author's proposed extensions of the splinter principle, but each partnership should decide for itself.—*Ed.*