A Lecture about Scoring

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Let's start our journey
with some easy score sheets
...

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MP-Scoring - Table A

Contract	Result	NS Score
N: 4 ♠ X	=	590
W: 3 SA	-2	100
E: 5 ♣	=	-400
N: 5 ♠ X	-1	-100
W: 3 SA X	-3	500
N: 4 ♠ X	+1	690
S: 4 ♠ X	-1	-100
E: 5 ♣ X	=	-550
E: 5 ♣	=	-400
E: 5 ♣	=	-400

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MP-Scoring - Table B

Contract	Result	NS Score	NS MP	EW MP
N: 4 ♠ X	=	590	16	2
W: 3 SA	-2	100	12	6
E: 5 ♣	=	-400	4	14
N: 5 ♠ X	-1	-100	9	9
W: 3 SA X	-3	500	14	4
N: 4 ♠ X	+1	690	18	0
S: 4 ♠ X	-1	-100	9	9
E: 5 ♣ X	=	-550	0	18
E: 5 ♣	=	-400	4	14
E: 5 ♣	=	-400	4	14

MP-Scoring - Table C

- Let's look at a frequency table with 100 Scores:

NS Score	Frequency
1660	1
1430	21
680	54
650	18
620	4
-100	1
-200	1

- Well, if we score this in the same way as before we (probably) will get a heavy headache. Let me show you an algorithm that works much better.

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MP-Scoring - Table D

NS Score	Frequency	Formula	NS MP
1660	1	176 + 21 + 1	198
1430	21	101 + 54 + 21	176
680	54	29 + 18 + 54	101
650	18	7 + 4 + 18	29
620	4	2 + 1 + 4	7
-100	1	0 + 1 + 1	2
-200	1	-1 + 1	0

- Start with –1.
- Add the frequency of the worst score to get the MP for this score.
- Then always add the MP of the previous score to its frequency and the frequency of the next-better score to get the MP of the next-better score.
- As a probe of the calculation(s) finally add the MP of the best score to its frequency and you should get (TOP + 1).

The Neuberg-Formula

$$S = (N \times M + N - n) / n$$

$$S = (N / n \times (M + 1)) - 1$$

Where

- S is the resulting score for a participant
- N is the number of expected scores
- n is the number of scores available (in the group)
- M is the score, calculated per Law 78 A, only amongst the available scores in the group (with reduced Top)

The Neuberg-Formula

An example to demonstrate the principle:

- Pairs event with 5 sections
- Each section has 13 tables
- Playing 12 rounds (round 1 for duplication)
- In one section a board was wrongly duplicated and the TD consequently divided the scores in two groups

The Neuberg-Formula – Tab. E

- In one group there are 48 scores
- In the other group there are 12 scores
- To make live easier let's examine the latter:

NS Score	Frequency	NS MP
170	2	21
140	5	14
110	1	8
-50	1	6
-100	2	3
-530	1	0

The Neuberg-Formula – Tab. F

- Well, let's recall that
  N = 60, n = 12 und therefore N / n = 5
- Neuberg: S = (N / n x (M + 1)) – 1

NS Score	Frequency	NS mp	Neuberg	NS MP
170	2	21	5 x 22 – 1	109
140	5	14	5 x 15 – 1	74
110	1	8	5 x 9 – 1	44
-50	1	6	5 x 7 – 1	34
-100	2	3	5 x 4 – 1	19
-530	1	0	5 x 1 – 1	4

Scoring in small groups

The Neuberg-Formula (only) applies when the size of the group is bigger than 3.

With fewer than 4 scores Artificial Adjusted scores are awarded in the following way:

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Scoring in small groups

- 1 Score: 60% - 60%
- 2 Scores: 65% - 55% and 55% - 65%

  if both are equal then 60% for all
- 3 Scores: 70% - 50%, 60% - 60%, 50% - 70%

  if all are equal then 60% for all

  if 2 are equal and the 3rd is not:

  65% - 55%, 65% - 55%, 50% - 70% or

  70% - 50%, 55% - 65%, 55% - 65%

Butler - Scoring

The principle of Butler-scoring is making a comparison between the score achieved by a pair and only one other number – like on teams – despite the presence of many scores obtained over the same board. To do that all such scores are summed up and then divided by the number of scores available to get their algebraic average. The result so obtained is called the “Datum” and it is the number each pair’s score is compared with.

Butler - Scoring

In other words, we use the following formula:

$$\sum_{i=1}^{n} a(i) \ / \ \mathrm{n}$$

where

- a is a single score and
- n is the number of scores available

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Butler – Table G

NS Score	Datum	Formula	NS IMP
600	(600 – 100 + 630 – 200 – 100 + 600 + 1370 – 500 + 800 + 1370) / 10 = 447 rounded up to 450	600 – 450 = 150	4
-100		-100 – 450 = -550	-11
630		630 – 450 = 180	5
-200		-200 – 450 = -650	-12
-100		-100 – 450 = -550	-11
600		600 – 450 = 150	4
1370		1370 – 450 = 920	14
-500		-500 – 450 = -950	-14
800		800 – 450 = 350	8
1370		1370 – 450 = 920	14

IMPs-across-the-field - Scoring

IMPs across the field – Scoring is simpler than Butler - Scoring. Each pair compares its score with all other scores as in a Team event and thereby scores positive and negative IMPs at every comparison. These IMPs are simply summed up.

$$\sum_{i=1}^{n} a(i)$$

where a(i) this time are the IMPs that result from each comparison.

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IMPs-acr-the-field – Table H

NS Score	Formula	NS IMP
600	12 – 1 + 13 + 12 + 0 – 13 + 15 – 5 - 13	+20
-100	-12 – 12 + 3 + 0 – 12 – 16 + 9 – 14 – 16	-70
630	1 + 12 + 13 + 12 + 1 – 12 + 15 – 5 – 12	+25
-200	-13 – 3 – 13 – 3 – 13 – 17 + 7 – 14 – 17	-86
-100	-12 – 12 + 3 + 0 – 12 – 16 + 9 – 14 – 16	-70
600	12 – 1 + 13 + 12 + 0 – 13 + 15 – 5 – 13	+20
1370	13 + 16 + 12 + 17 + 16 + 13 + 18 + 11 + 0	+116
-500	-15 – 9 – 15 – 7 – 9 – 15 – 18 – 16 – 18	-122
800	5 + 14 + 5 + 14 + 14 + 5 – 11 + 16 – 11	+51
1370	13 + 16 + 12 + 17 + 16 + 13 + 18 + 11 + 0	+116

Matchpointing – Split Scores

- Law 12 says the scores assigned to the two sides need not balance.
- This may lead to so called **Splitscores**.
- Remembering Law 78 A? We (just) have to compare the scores of the two contestants with the other scores of the respective group – NS or EW – so obtaining two different frequency tables.

Matchpointing – Split Scores

A simple example to demonstrate the principle:

NS Score	EW Score	NS MP	EW MP
590	-590	16	4
100	-100	12	8
-400	-690	4	1
-100	100	9	11
500	-500	14	6
690	-690	18	1
-100	100	9	11
-550	550	0	18
-400	400	4	15
-400	400	4	15

IMP-Scoring – Split Scores

- In a 20-board match between Milan and Inter there have been 2 adjusted scores.
- First the TD gave an artificial adjusted score of 40% for both sides, which means –3 IMP for each of the two sides.
- Then in board 18 in the Open Room he gave an assigned adjusted score of –800 to Milan and of –1100 to Inter.
- The result of board 18 in the Closed Room was –620 for Milan and +620 for Inter.

IMP-Scoring – Split Scores

- This last score has to be translated in IMPs.
- Milan scores –800 und –620, in total –1420 and –16 IMP.
- Inter scores –1100 und +620, in total –480 and –10 IMP.
- Without these 2 boards the result of the match is

Milan 78 – Inter 54

(yes, a derby is always a bloody affair ...)

IMP-Scoring – Split Scores

- From Milan’s point of view they keep their 78 IMPs, while their opponents score another 19 IMPs, which leads to a difference of 5 IMPs in favour of Milan and therefore to 16 VP.
- From Inter’s point of view they keep their 54 IMPs, while their opponents score another 13 IMPs which leads to a difference of –37 IMPs and only 6 VP.
- The final result in Victory Points thus is:

Milan 16 – Inter 6

IMP-Scoring – Split Scores – KO

In a KO match the calculation of the IMPs is done in the same way but at the end we have to extract a single score for both sides. Law 12 C4 tells us how to do it: the average of the two results calculated separately is assigned to both sides.

The scores of the two teams in the above two boards differ in 6 IMPs in favour of Inter (a score of e.g. 40% - 40% or any other (artificial) score equal for both sides doesn’t make any sense in a KO match), so the average is 3 IMPs in favour of Inter.

IMP-Scoring – Split Scores – KO

The final result of the match will thus be:

Milan 78 – Inter 57

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Weighted Scores

Law 12 C1c says:

> *In order to do equity [...], an assigned adjusted score may be weighted to reflect the probabilities of a number of potential results.*

As this law thus allows weighted scores, the problem arises how to calculate them. As long as they are equal for both sides (not necessarily so), one could think there are no problems, but ...

Weighted Scores

… unfortunately we don’t assign weighted scores in total points (unless – of course – we score in total points) but we award them either in MPs or in IMPs.

In other words what we weight are not the results but the number of MPs or IMPs that would be worth every single possible result.

Weighted Scores - MP

An example shall illustrate this:

- For some reason we think that a pair deserves to score +1100 1 time out of 10, +620 7 times out of 10 and –200 2 times out of 10.
- Playing teams in a BAM event the task is extremely easy: what does weight in such cases is only how many times a team would win or lose a board.

Weighted Scores - MP

- Playing a pairs event things are a bit more complicated. First you have to consider the various different frequency tables, then to assign to the scores you have to weight (here: 3) their corresponding number of MPs, and finally weight them.
- Let’s consider the following frequency tables, where the pairs we are interested in, are the top ones.

Weighted Scores - MP

NS Score	NS MP	NS Score	NS MP	NS Score	NS MP
1100	18	620	12	-200	6
620	11	620	12	620	13
-200	5	-200	5	-200	6
620	11	620	12	620	13
-500	1	-500	1	-500	1
790	16	790	18	790	18
620	11	620	12	620	13
620	11	620	12	620	13
-500	1	-500	1	-500	1
-200	5	-200	5	-200	6

Weighted Scores - MP

- Our NS pair receives then:
  - 10% of 18 MP = 1.8 MP plus
  - 70% of 12 MP = 8.4 MP plus
  - 20% of 6 MP = 1.2 MP
- Summed up to 11.4 MP.

Normally the EW pair will get the balance, but not necessarily so. Strictly applying Law 12 C1c we can give different weights to each score, e.g. EW gets 30% of –1100, 60% of –620 and only 10% of +200, which leads to 4.8 MP for EW.

Weighted Scores - MP

The next problem is how to calculate the scores for the other pairs. The only sensible solution is to weight all other scores too.

With the data from the above example you get the following tables:

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Weighted Scores - MP

10% weight		70% weight		20% weight		Total
NS Score	NS MP	NS Score	NS MP	NS Score	NS MP	NS MP
1100	18	620	12	-200	6	11.4
620	11	620	12	620	13	12.1
-200	5	-200	5	-200	6	5.2
620	11	620	12	620	13	12.1
-500	1	-500	1	-500	1	1
790	16	790	18	790	18	17.8
620	11	620	12	620	13	12.1
620	11	620	12	620	13	12.1
-500	1	-500	1	-500	1	1
-200	5	-200	5	-200	6	5.2

Weighted Scores - MP

As this is very confusing I want you to recall the algorithm I showed you earlier this lecture.

We simply take the frequency table without our weighted score und add the weights directly into this table (as fractional portions to the respective scores). After that the algorithm works in the same way as shown before.

Weighted Scores - MP

NS Score	Frequency	Formula	NS MP
1100	0.1	17.8 + 1 + 0.1	18.9
790	1	12.1 + 4.7 + 1	17.8
620	4.7	5.2 + 2.2 + 4.7	12.1
-200	2.2	1 + 2 + 2.2	5.2
-500	2	-1 + 2	1

The probe (18.9 + 0.1 = Top + 1) works well ☺

Finally the score for our pair has to be calculated by factoring the several outcomes:

(18.9 x 0.1) + (12.1 x 0.7) + (5.2 x 0.2)

= 1.89 + 8.47 + 1.04 = 11.4 q. e. d.

Self inflicted Damage

One last special case arises from the application of Law 12 C1b:

> *If, subsequent to the irregularity, the non-offending side has contributed to its own damage by a serious error (unrelated to the infraction) or by wild or gambling action it does not receive relief in the adjustment for such part of the damage as is self-inflicted. The offending side should be awarded the scored that it would have been allotted as the consequence of its infraction only.*

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Self inflicted Damage - IMP

Let’s have a look at the following example:

- In a competitive auction NS have reached 4 ♥; a contract that easily makes 10 tricks.
- After the 4 ♥-bid East thinks for quite a long time and finally passes, after which West goes on to 4 ♠. The TD decides that bidding 4 ♠ is an infraction.
- These 4 ♠ are doubled by North with a hand without any defensive potential and the contract makes with an easy overtrick.

Self inflicted Damage - IMP

- At the other table the result is 5 ♥ X –1 for the NS-pair at that table (-200).
- The TD now has to calculate the following 3 scores:
  - The table-score, here: -990
  - The “normal” score, i.e. the score that would have been reached if the non-offending side hadn’t contributed to its own damage, here: -650
  - The “regular” score, i.e. the score that would have been assigned by the TD as a consequence of the infraction, here: +620

Self inflicted Damage - IMP

- Translated into IMPs this means for NS's team:
  - Tablescore: –990 + 200 = –790 (–13 IMP)
  - "normal" Score: –650 + 200 = –450 (–10 IMP)
  - "regular" Score: +620 + 200 = +820 (+13 IMP)

- The self inflicted damage now is the difference between the normal Score and the tablescore – if positive, here: –10 – (– 13) = 3 IMP.

Self inflicted Damage - IMP

- Accordingly the team of the NS pair does not get 13 IMPs (as relief for opponent’s infraction), but only 10 IMPs. The further 3 IMP was the self inflicted damage.

- The team of the EW pair on the other hand get an adjustment of –13 IMP, as the offending pair is given the adjustment that it would have received without the gambling action of their opponents.

If there are no further questions,

thank you for your patient attention.

Good Bye!