

# “Repairing the FIDE Standard Elo rating system”: A proposal to return lost points

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## Abstract

In January 2022, FIDE modified the “400-point rule” such that a player could benefit from only one ‘upgrade’ per tournament. As shown in Jeff Sonas’ report, the misalignment between Elo ratings and expected performance, especially in recent years, has disadvantaged higher-rated players, and this rule change significantly exacerbated the problems. Approximately 24,000 players from across the world lost points due to this distortionary policy. In this submission, I not only agree with Jeff Sonas that the rule should be returned to its pre-2022 state, but I also propose that the ‘lost’ Elo rating points due to the January 2022 rule be returned to players. A one-off adjustment is equitable, technically very easy to implement, and provides an additional counter-balancing effect to the current distortions.

## 1 Introduction

Dear FIDE Qualification Commission,

Thank you for the opportunity to contribute to the public consultation on “Repairing the FIDE Standard Elo rating system”. I applaud FIDE’s decision to open up the policy-making process to public input from the chess community, which is a very positive step, and I hope it continues to do so.

In general, I support the analysis and recommendations of Jeff Sonas detailed in his [report](#). I also support the analysis and further recommendations put forward by [Professor Kenneth Regan](#), and in particular the more radical measures proposed to address the impact of the pandemic lag.

My one additional suggestion is that FIDE should return to players the Elo rating points that were ‘lost’ as a result of the January 2022 ‘single-upgrade’ rule change to the 400-point rule. In other words, I not only agree with Jeff Sonas’ recommendation that “we should reinstate the behavior where the 400-point-rule applies to all games, even if a rating favorite already benefits from it elsewhere in the tournament”, but that FIDE also *retroactively* reinstates the original rule, correcting ratings that were lowered as a result of this policy over the past 20 months.

I provide some background and justification for this recommendation in the following pages. However, I would like to make the following three points very clear:

1. **This is not a radical proposal.** While about 24,000 players lost points under the January 2022 rule change, the average number of lost points per player is small, only 3.2 Elo. Only 7% of affected players would receive more than 10 Elo points from my recommendation, and only 1% of players would receive more than 25 points.
2. **This is an easy proposal.** The technical calculations to make this one-off change are very easy, and in fact the code has already been written (first by Jeff Sonas, and then later replicated by me). The one-off change can be added simultaneously to Jeff Sonas’ *Compression* and *Calculation Improvements* changes, with an additional inflationary effect, and no extra work for the QC.
3. **This is a fair proposal.** The players most disadvantaged by the January 2022 rule were ‘weak professionals’ and young norm-hunters. For some, a handful of lost points matters for rating qualifications. Importantly, under the proposal, no player is directly made worse off.

## 2 Background

The original FIDE 400-point rule stated that when the rating difference between two players exceeded 400 points, it was treated as 400 points for the rating calculations. That is, the winner’s expected score was treated as 92%. If the higher-rated player won the game, they gained  $0.08 * K$ , or 0.8 points for a  $K$ -factor of 10, no matter how great the rating difference between the players.<sup>1</sup> There is logic to this rule because the original Elo formula proposed by Professor Arpad Elo became increasingly inaccurate at predicting game results for large Elo differences.

In 2019, [rumours started to spread](#) among the chess world that the Czech GM Igor Rausis had been “hacking” this rule. It was speculated that, by exploiting the 400-point rule in Open events, Rausis had been able to artificially increase his rating from approximately 2500 to almost 2700 over the course of 6 years. Of course, Rausis *was* artificially increasing his rating, but not because of this rule - he was later caught, and banned, for [cheating with engine assistance](#).

In the [January 2022 FIDE regulations](#), this was changed so that the 400-point rule could only be used by a player once per tournament. Specifically:

“In any tournament, a player may benefit from only one upgrade under this rule, for the game in which the rating difference is greatest.”

## 3 Problems with the January 2022 ‘single upgrade’ rule

Although it was well-intentioned, the January 2022 change was designed to fix a problem that, in all likelihood, didn’t exist. More importantly, the Sonas report shows that top players have been *deflationary* pressures in recent years, which the January 2022 rule has made worse. See Figure 1 from the Sonas Report:

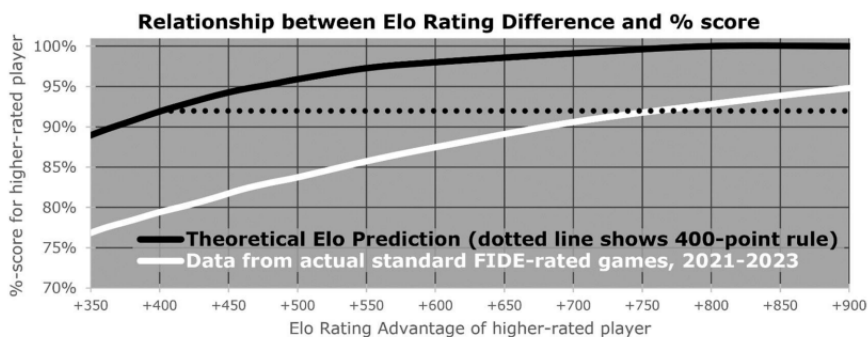


Figure 1: **Theoretical versus actual advantage of the higher-rated player (Sonas Report)**

As the Sonas Report states:

“From looking at actual game data, we can see that currently, players with 400-point rating advantages are not even scoring 80% in such games, let alone 92%, and it takes something like a 650-700 Elo point rating advantage until we can reasonably expect the rating favorite to score as well as 90%.”

The January 2022 ‘single upgrade’ rule has caused two types of negative effects on the chess world: behavioural, and statistical. The main behavioural effect has been that it has discouraged higher-rated players

<sup>1</sup>This is in fact a slight deviation from the original Elo formula, which predicts a 91% expected score and a subsequent Elo gain of 0.9 points.

from participating in Open tournaments due to the high chance of losing rating points, *even if they performed at their expected rating*. The very elite players were not as affected as they typically compete in invited, closed events in which rating differences are well within 400 points. However, for most professional or semi-professional players, the choice has been to either accept a near-certain loss of rating to below their true strength, or to find a different profession. That is not a choice we wish our players to have to make.

In fact, the more active a player is, the bigger their disadvantage. A particularly affected group is active, older GMs in the 2300-2500 range, for whom chess is their livelihood, and switching professions is no longer an option. These players make up a group that was already significantly affected by the effects of the COVID-19 pandemic in reducing the number of available tournaments. Examples of affected players include highly active GMs such as:

- GM R.R. Laxman (2372, IND, 40y, -24 Elo from the rule change, over 53 games)
- GM Miguel Munoz (2349, PER, 48y, -17 Elo from 63 games)
- GM Everaldo Matsuura (2408, BRA, 54y, -15 Elo from 54 games)
- GM Eric Prie (2368, FRA, 61y, -12 Elo from 34 games)
- GM Igor Efimov (2349, MNC, 63y, -12 Elo from 34 games)
- GM Alexandr Fier (2606, BRA, 35y, -12 Elo from 42 games)
- GM Raset Ziatdinov (2118, USA, 65y, -12 Elo from 33 games)

On a per-game bias, titled women have been the biggest losers, with several titled players losing more than 10 Elo from few games. For example:

- WGM Priyanka Nutakki (2320, IND, 21y, -17 Elo from 21 games)
- WGM Yelena Ankudinova (1990, KAZ, 61y, -16 Elo from 18 games)
- WGM Ava Suleimanova (2146, UKR, 41y, -13 Elo from 13 games)
- WGM Bodda Pratyusha (2310, IND, 26y, -11 Elo from 11 games)

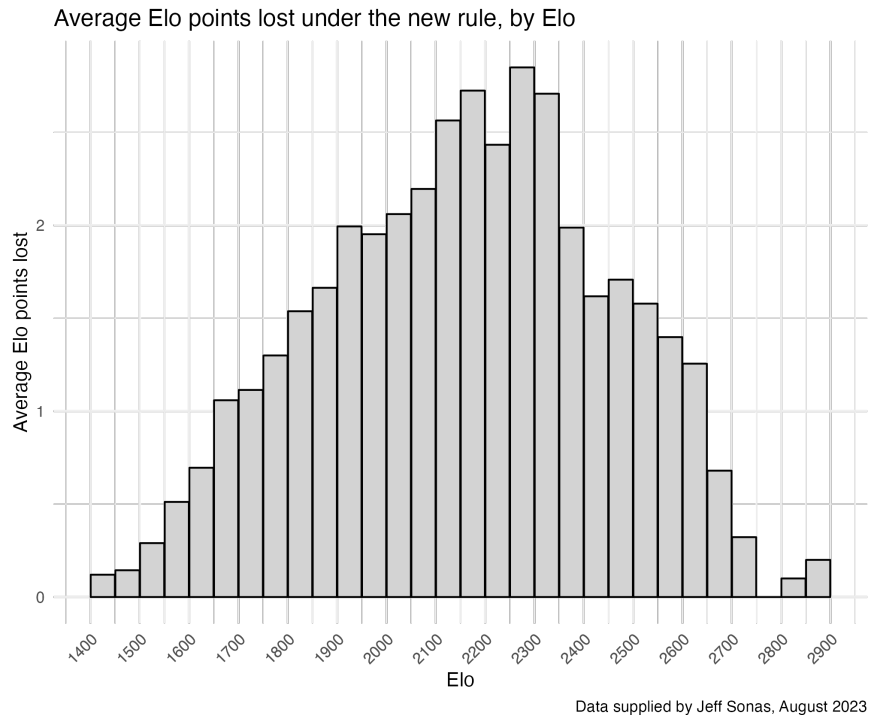


Figure 2: **Lost Elo points to the January 2022 rule, by Elo**

A second group that was disadvantaged by the change was norm-chasers. Players who are ‘in their prime’ for hunting norms will continue to play, despite the obstacles. Some of these players would have achieved titles under the old rule, but have not reached the required ratings under the new rule. An example is the strong English IM Brandon Clarke. He reached a peak Elo of 2498 in August 2023, which is not yet enough for the GM title. However, this was directly due to the January 2022 rule, which has cost him 9 Elo. Were it not for the rule change, he would already have broken 2500 several times. Another example is the young Turkish IM Yagiz Kaan Erdogmus (2483, 12y), who is on track to become one of the youngest-ever grandmasters, and who would have an Elo of 2495 if his points were returned.

## 4 Proposal: Reverting the changes

When policy-makers want to revert a policy to its original form, it is usually too difficult to ‘walk back’ the changes, i.e., retrospectively fix the policy. The two reasons for this are: (a) It is usually practically too difficult to make the changes, and (b) Retrospective changes typically disadvantage some groups. However, for the current issue, FIDE has a rare opportunity to retrospectively adjust the policy without encountering these two problems. By making a one-off rating change, FIDE can rectify the disadvantages bestowed on 24,000 of its players since January 2022. Importantly, (a) The calculations are very easy to implement - in fact, the analysis code has already been written by Jeff Sonas - and (b) No group will be directly made worse from this action. Note that the proposal is only for uni-directional rating changes; players would be given back Elo points that they would have earned under the original 400-point rule, but no player would have Elo points deducted.

The code’s implementation is as follows:

1. For each player in each tournament since January 2022: identify if the player was subject to the ‘single upgrade’ rule (i.e., the player won against more than one player rated more than 400 points below them)
2. Calculate the player’s rating changes under the original 400-point rule
3. Calculate the difference between the player’s rating changes under the original 400-point rule and the January 2022 ‘single upgrade’ rule
4. Sum up the differences to compute the total points to be returned to the player.

This implementation is *static*: it does not account for dynamic rating adjustments due to rating changes in earlier periods. However, these differences are minimal, and, for the purposes of equity and ease of use, I believe it best to compute these simple static changes. I would note that Jeff Sonas’ simulations model is capable of computing dynamic changes if desired.

## 5 Conclusion

While made with the best of intentions, the January 2022 ‘single upgrade’ change to the 400-point rule has disadvantaged a large number of chess players. The overall average disadvantage was small, but some groups were more affected than others. Moreover, these groups are arguably the sorts of players that the chess community would like to support: professional players who have made chess their livelihood, or norm-hunters who are on the cusp of professionalism. The proposed reverted changes are both fair and would help to restore faith in the rating system.

Yours sincerely,

GM David Smerdon (PhD), September 2023, Brisbane