

Clay Court Point Outcome – ATP & WTA Tour

A Study into the 4 Shot Combinations™ in Tennis

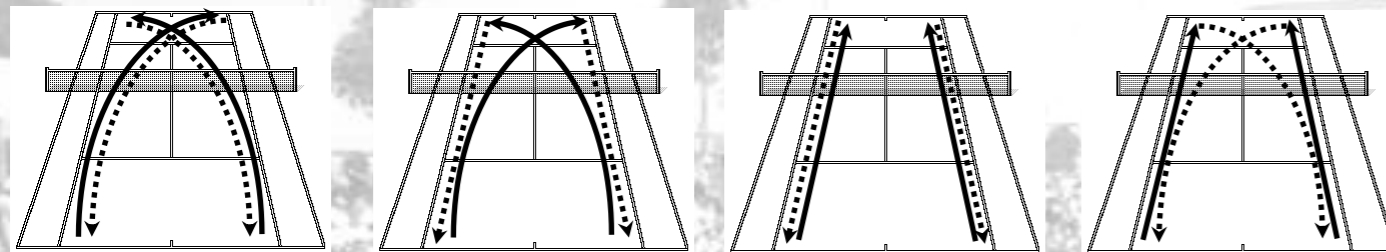
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Introduction & Background

The study investigated the connection between outcome type, percentage of point outcomes and gender. The intended use of this study is to establish if tennis is played differently on the ATP and WTA Tour and assist in the tactical development of junior tennis players.

There are essentially two shot directions you can hit in tennis – Cross-Court (X) and Down-the-Line (DTL). These two choices result in four possible shot combinations.



Rule 1
X – X

Rule 2
DTL – X

Rule 3
DTL – DTL

Rule 4
X – DTL

The first shot (first symbol) is considered player A's shot (dotted line) and the subsequent shot is considered the point ending shot (solid line) by player B. E.g. Rule 2: Player A hits Down-the-Line (DTL) then player B responds with a Cross-Court (X) shot.

Methodology

- The study was conducted at Roland Garros (Clay Court) in 2008 on the ATP Tour and Roland Garros (Clay Court) in 2007 on the WTA Tour.
- Seven ATP Main Draw matches, (22 sets, 191 games and 803 points) and 7 WTA Main Draw matches (17 sets, 167 games, 784 points) were selected at random. Table 1.1 outlines sample size collected for each Tour.
- The last two shots of each point were recorded to identify the point outcome rule.
- Each point outcome rule was also classified by outcome type – Winner (W), Unforced Error (Ufe) and Forced Error (Fe).

Conclusions

- Grand Slam level tennis is a game of unforced errors. Regardless of point outcome, unforced errors remained the highest outcome type irrespective of Tour type. (Figures 1.1-1.2 & Figures 2.1-2.4).
- Table 1.2 demonstrates there is no significant difference in the percentage of Clay Court point outcomes between the ATP and WTA Tour. Therefore, point outcome is not Tour dependent.
- Rule 1:** The highest number of unforced errors and lowest number of winners for all rules were committed by both Tours. WTA (66 / 21%) and ATP (53 / 35%).
- Rule 2:** Is not surface dependent as there was no significant difference in point outcome type between Tours.
- Rule 3:** Was by far the lowest used point outcome of all rules. ATP Tour created the highest forced errors (28%). WTA Tour hit more winners at the expense of forced errors.
- Rule 4:** The highest point outcome of all rules. ATP Tour created more forced errors at the expense of winners. WTA Tour hit more winners at the expense of forced errors.
- Tour type does not dictate the point outcome used on Clay Court on the ATP and WTA Tours.

Glossary

- Tour Type:** ATP and WTA Tour.
- Point Outcome:** The final two shots of a point as classified by one of the four rules.
- Outcome Type:** The way in which the point is concluded as classified by one of the three categories.
 - Winner (W):**
 - Clean Winner:** A point won where no touch of the ball is made by opposing player's racquet.
 - Effective Winner:** A point won where a touch of the ball is made by opposing player's racquet, but no competent attempt to return the ball was possible.
 - Unforced Error (Ufe):** A mistake made from a competent attempt where the player is not under significant pressure and is in relative control of the ball.
 - Forced Error (Fe):** A mistake made from a competent attempt where the player is under significant pressure and is not in relative control of the ball.

Discussion: ATP vs. WTA Tour Comparison

- Rule 1:** Figure 2.1 illustrates WTA Tour make on average 13% more unforced errors. ATP Tour hit 14% more winners and created effectively the same forced errors. The highest outcome type of any Rule was unforced errors.
- Rule 2:** Figure 2.2 illustrates WTA Tour hit 2% more winners than ATP Tour. Both Tours committed the same unforced errors. ATP Tour created 3% more forced errors. There is no significant difference in point outcome type between Tours.
- Rule 3:** The ATP Tour created 10% more forced errors at the expense of winners. The WTA Tour hit 11% more winners. This rule appears to be the most surface dependent for point outcome type as illustrated by Figure 2.3.
- Rule 4:** Only a 2% difference separate ATP and WTA Tour in the number of unforced errors committed. WTA Tour hit 8% more winners at the expense of force errors. The ATP Tour created 10% more winners and forced errors. (Figure 2.4). Speed of surface appears to influence point outcome type for ATP and WTA Tours.

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Results & Graphs

Table 1.1 – Sample Size Comparison

Roland Garros	ATP Tour	WTA Tour
# Matches	7	7
# Sets	22	17
# Games	191	167
# Points	803	784

Table 1.2 – Percentage Point Outcomes for Australian Open 2008

Roland Garros	Rule 1	Rule 2	Rule 3	Rule 4
ATP Tour	30.0	20.0	17.0	33.0
WTA Tour	26.5	22.6	14.5	36.4

* Values in percent (%)

Coaching Applications

- Coaches should train the same point outcome combinations (four rules) for boys and girls on Clay Court, independent of the player's style or specific match strategy or tactic.
- Coaches should prioritise the following when training boys and girls:
 - Rule 1** – Both boys and girls should learn to reduce unforced errors when rallying cross court. This should be reflected in the structure of drills and practice in both their purpose and the time spent hitting cross-court in relation to down-the-line directions for both rallying and point ending situations.
 - Rule 2** - Develop ability to hit winners at the expense of unforced errors on Clay Court.
 - Rule 3** – Boys to learn to create forced errors and girls to hit winners using Rule 3 as a tactical point outcome on Clay Court
 - Rule 4** – Train decision making of 'right shot at right time' and train hitting down-the-line in the context of this 'change of direction' combination. Boys to emphasise forced errors and girls winners, both at the expense of unforced errors on Clay Court.
- Players should focus on creating forced error outcomes at the expense of unforced errors and not focus on hitting winners at the expense of increased unforced errors.
- An understanding of the four point outcome rules and three outcome types (winner, unforced error and forced error) can serve as a tactical foundation for players through all stages of development.

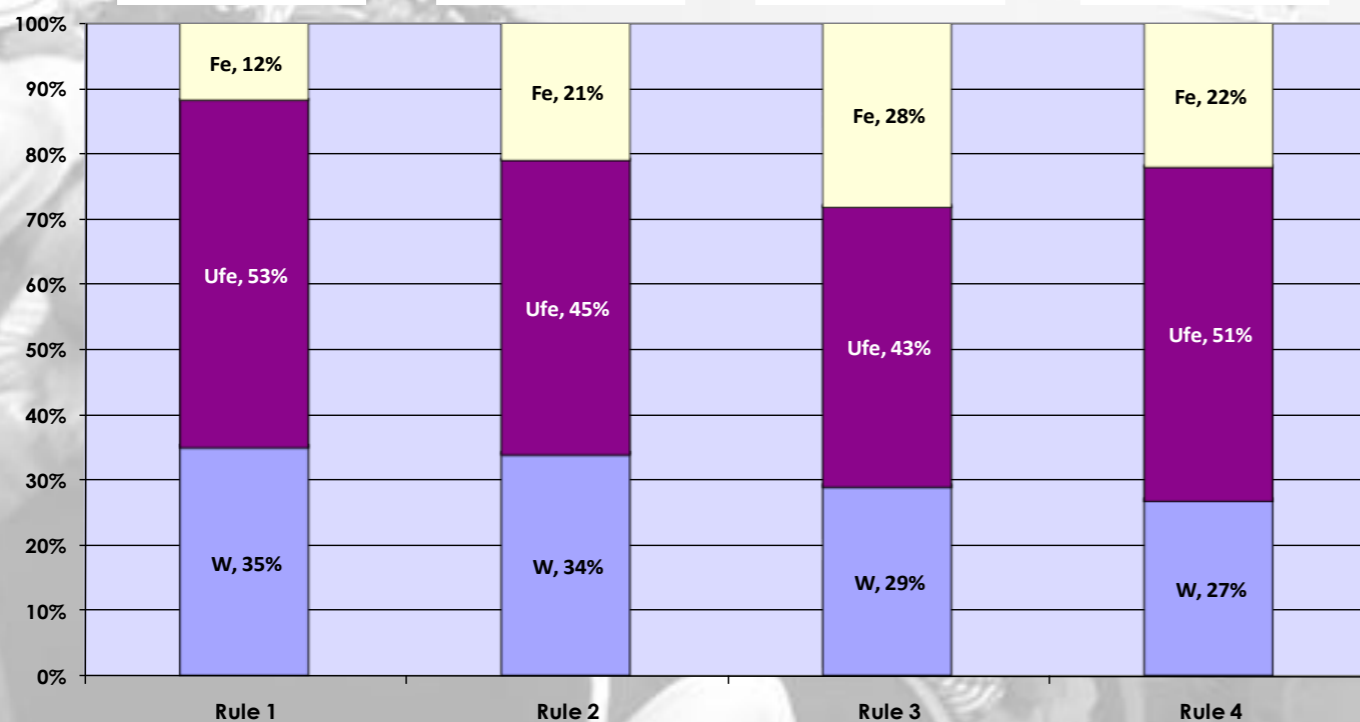
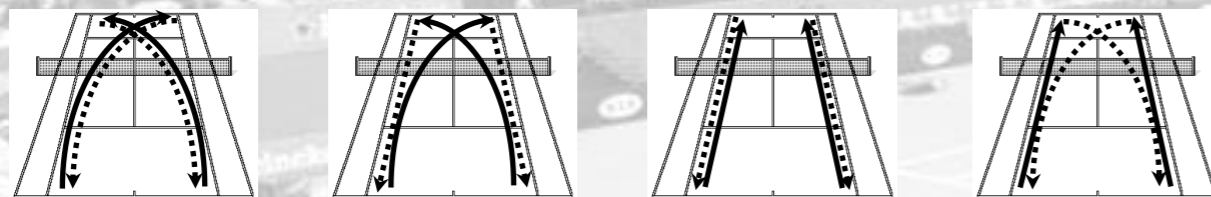


Figure 1.1

ATP Tour 2008 (Roland Garros) - Clay

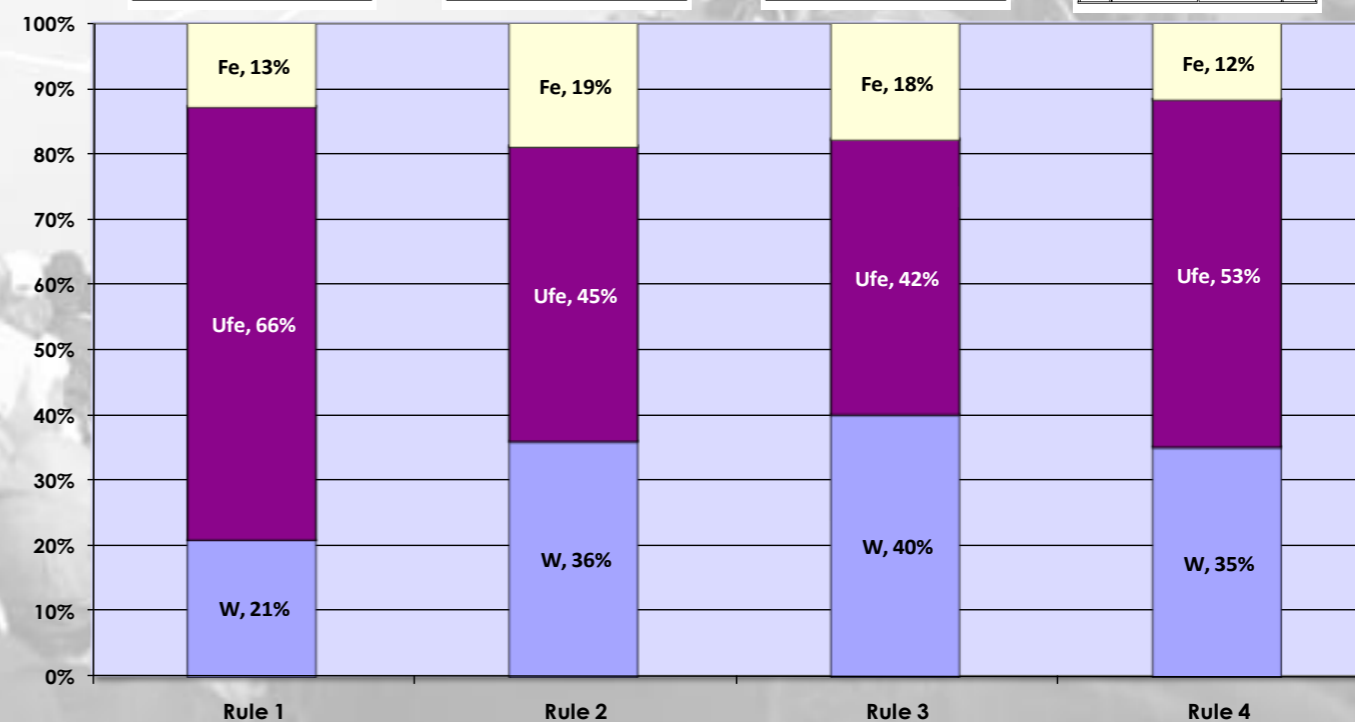
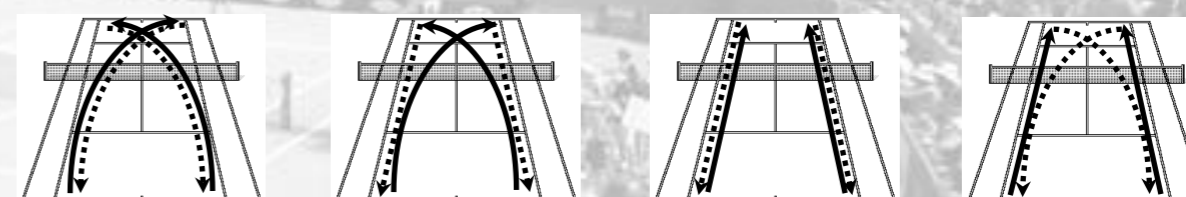


Figure 1.2

WTA Tour 2007 (Roland Garros) - Clay

Rule 1 (X – X) Results & Graphs

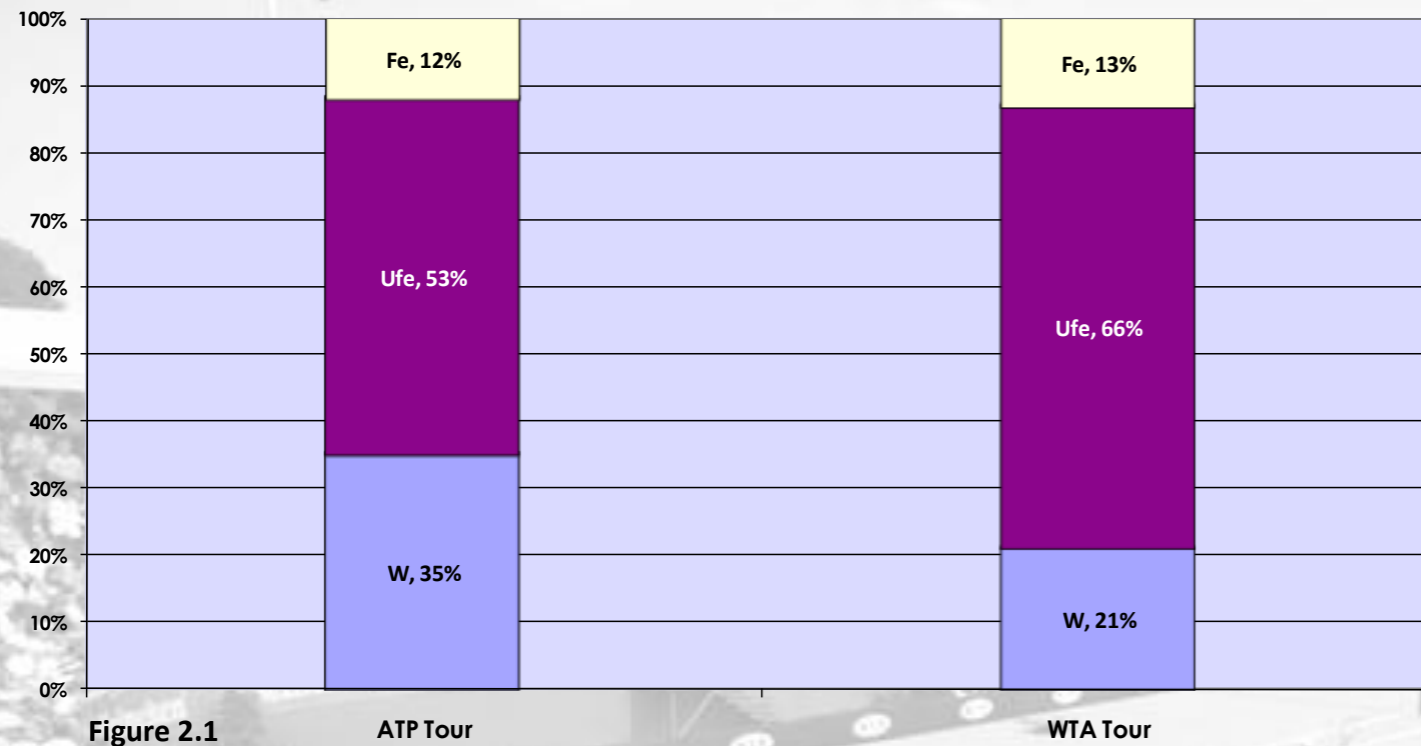


Figure 2.1

ATP Tour

WTA Tour

Rule 2 (DTL – X)

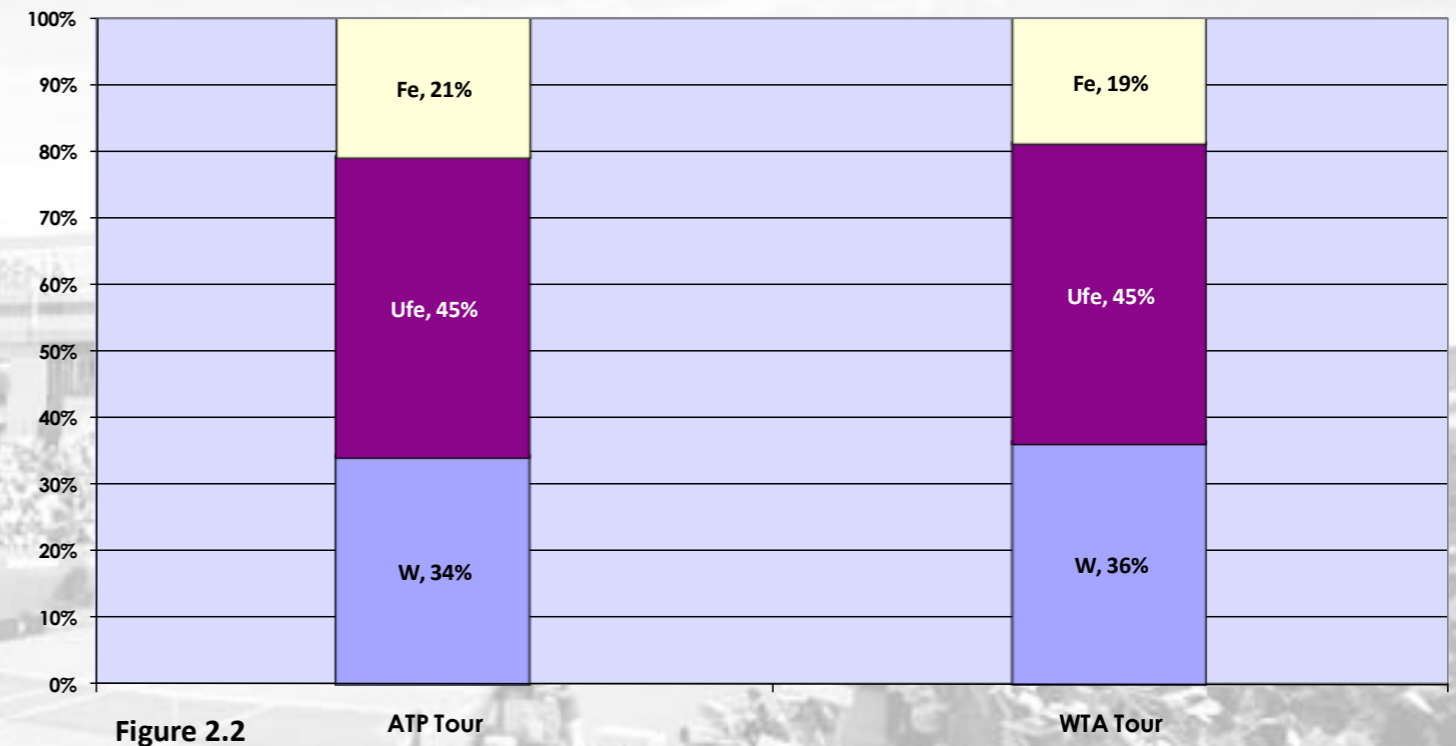


Figure 2.2

ATP Tour

WTA Tour

Rule 3 (DTL – DTL)

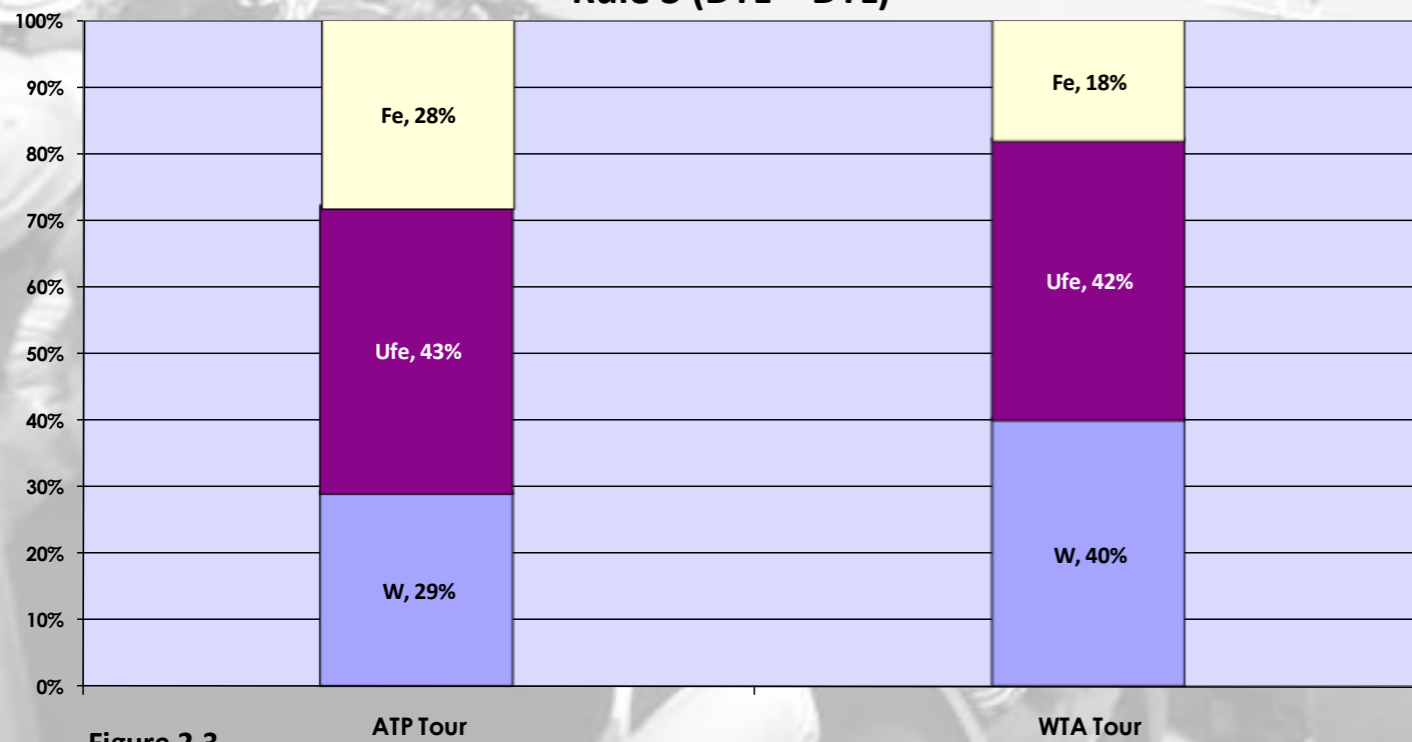


Figure 2.3

ATP Tour

WTA Tour

Rule 4 (X – DTL)

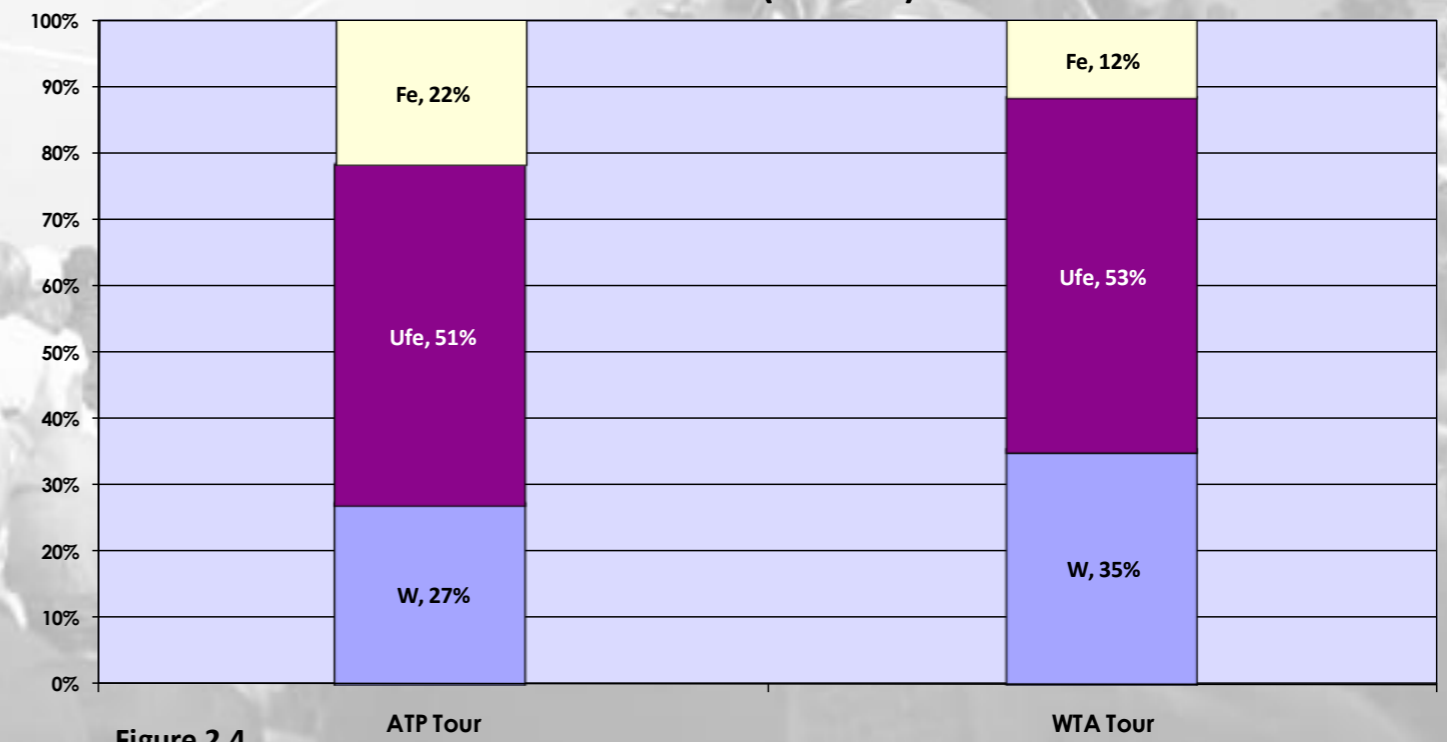


Figure 2.4

ATP Tour

WTA Tour