

# A Fair Comparison of NHL Forwards

1925 - 2009

It is extremely difficult to compare the scoring feats of NHL stars from different eras. This is an attempt to do so using a new measure of scoring prowess called the **Fair Scoring Metric**. This metric uses a few assumptions to make comparisons within and between years more accurate.

By normalizing for season length and the ease with which a typical player can register a goal or assist in different eras, we can draw comparisons that are impossible when simply looking at goal, assist, or point totals. For this comparison, only forwards who played at least half of the year in 22 years were considered.

The intention of this work is not to challenge the existing method of measuring success (total goals, assists, and points). Instead, the goal was to provide a different perspective on the age-old question: Who is the greatest offensive threat in NHL history?

All data was compiled from the Hockey Databank (web address below). To develop your own statistics from this database, please join the group or visit HockeyHunter.com for a more user-friendly query tool.

<http://sports.groups.yahoo.com/group/hockey-databank/>

## Computing the Fair Scoring Metric

- Compare to Peers:** To ensure that scoring talent was measured amongst a group of peers facing similar conditions and playing time, the pool of potential seasons was limited to the 13,552 player-seasons from 1925 - 2009 for forwards (center, left-wing, right-wing) who had played in at least half of the regular season games.
- Normalize for Games Played:** Over time the season has grown longer. Players in earlier decades shouldn't be penalized for having played fewer games. Similarly, players who are injured for part of the season do not have the opportunity to score. Each players' goals, assists, and points were divided by the number of games they played that season.
- Normalize for Seasonal Scoring Differences:** Over time the typical number of points per game has changed by as much as 50%. To compare between seasons, each players' per-game averages were divided by the median value for all of his peers for that season.
- Compare all players in all seasons:** The higher the Fair Scoring Metric for goals, assists, or points, the better that player did relative to his peers, regardless of overall league scoring rates. By comparing relative performance within a year, we can compare all forwards in all seasons.

LW I C I RW 50% of Season

Ex: Mario Lemieux played in 60 games in 1992, and he played, center, so he would be considered as part of the initial player pool. However, in 1993 he played only 22 games so was not considered eligible for this analysis. Bobby Orr, a defenseman, was not eligible.

(Goals, Assists, Points) per Game

Ex: Mario Lemieux played in only 60 games in 1992 but scored 69 goals, 91 assists, and 150 points. To compare his season to his peers, the comparison is drawn to his 1.15 goals per game, 1.52 assists per game, and 2.67 points per game.

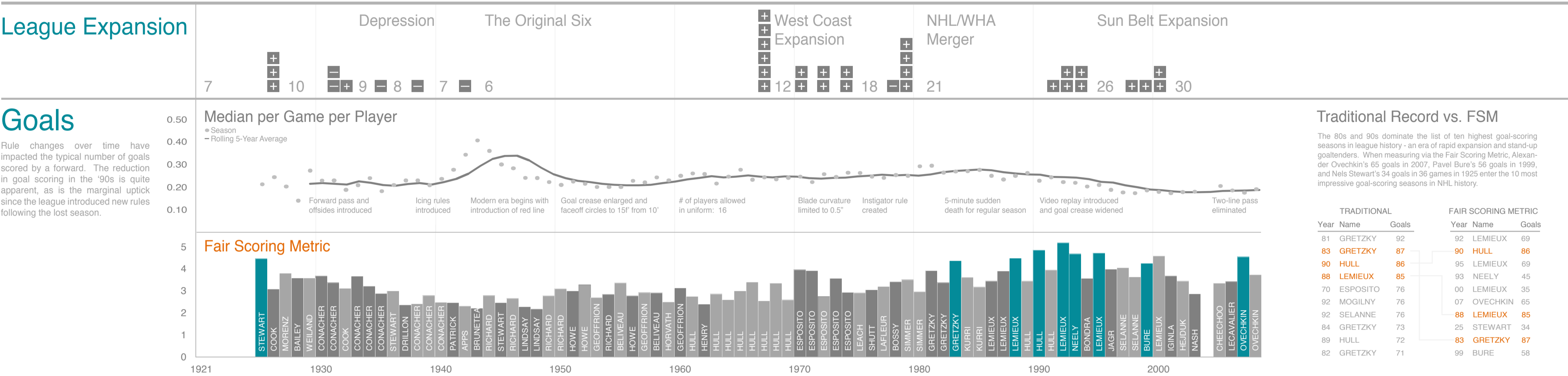
League Median (Goals, Assists, Points) per Game

Ex: Lemieux's points per game (PPG) average of 2.67 was divided by the median of his peers in the 1992 season, which was 0.54 points per game. This final number is his **Fair Scoring Metric** for PPG in 1992. In this case, Mario scored at 4.96 times the rate of his peers.

Ex: Mario Lemieux's Fair Scoring Metric for PPG in 1992 (4.96) was the best in league history. According to this measure, no forward in the last 85 years has outperformed his peers by such a large margin.

## League Leaders by Fair Scoring Metric

The charts below highlight the league leaders in points, goals, and assists by the Fair Scoring Metric. League expansion and median scoring per player are included to give a sense of the general trends occurring in the league over time. Top ten performances for each metric are highlighted in blue.



### Traditional Record vs. FSM

The 80s and 90s dominate the list of ten highest goal-scoring seasons in league history - an era of rapid expansion and stand-up goaltenders. When measuring via the Fair Scoring Metric, Alexander Ovechkin's 65 goals in 2007, Pavel Bure's 56 goals in 1999, and Nels Stewart's 34 goals in 36 games in 1925 enter the 10 most impressive goal-scoring seasons in NHL history.

TRADITIONAL			FAIR SCORING METRIC		
Year	Name	Goals	Year	Name	Goals
81	GRETZKY	92	92	LEMIEUX	69
83	GRETZKY	87	90	HULL	86
90	HULL	86	95	LEMIEUX	69
88	LEMIEUX	85	93	NEELY	45
70	ESPOSITO	76	00	LEMIEUX	35
92	MOGLINY	76	07	OVECHKIN	65
92	SELANNE	76	88	LEMIEUX	85
84	GRETZKY	73	25	STEWART	34
89	HULL	72	83	GRETZKY	87
82	GRETZKY	71	99	BURE	58

### Traditional Record vs. FSM

Any way you view it, no one set up his teammates like Gretzky. His 1388 effort of 163 assists will likely stand for a long time - the next closest point total that year was 141 (Mario Lemieux). However, three names from hockey's early days show up when viewed by the Fair Scoring Metric - Joe Primeau's 32 assists in 38 games, Howie Morenz's 18 assists in 42 games in 1927-0, and Dick Irvin's 18 in 43 games in 1926 (forward passing was introduced in 1929).

TRADITIONAL			FAIR SCORING METRIC		
Year	Name	Assists	Year	Name	Assists
85	GRETZKY	163	85	GRETZKY	163
84	GRETZKY	135	90	GRETZKY	122
82	GRETZKY	125	87	GRETZKY	109
90	GRETZKY	122	92	LEMIEUX	91
86	GRETZKY	121	95	LEMIEUX	92
81	GRETZKY	120	30	PRIMEAU	32
83	GRETZKY	118	27	MORENZ	18
88	LEMIEUX	114	84	GRETZKY	135
88	GRETZKY	114	26	IRVIN	18
80	GRETZKY	109	86	GRETZKY	121

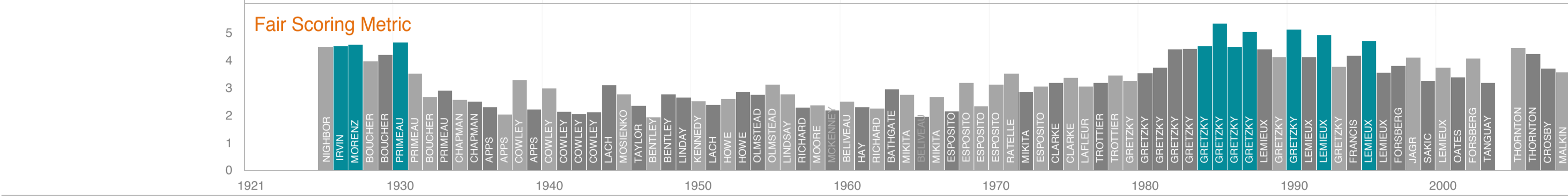
### Traditional Record vs. FSM

Howie Morenz in 1927, with 51 points in 43 games, has the distinguished honor of being the only person not named Gretzky or Lemieux to show up in either list. The sheer dominance by these two players (Gretzky with 14 spots and Lemieux with 5) firmly cemented them as the two greatest scorers the game has ever seen.

TRADITIONAL			FAIR SCORING METRIC		
Year	Name	Points	Year	Name	Points
85	GRETZKY	215	92	LEMIEUX	160
81	GRETZKY	212	95	LEMIEUX	161
84	GRETZKY	208	83	GRETZKY	205
83	GRETZKY	205	88	LEMIEUX	199
88	LEMIEUX	199	84	GRETZKY	208
82	GRETZKY	196	00	LEMIEUX	76
86	GRETZKY	183	82	GRETZKY	196
87	LEMIEUX	168	85	GRETZKY	215
88	GRETZKY	168	27	MORENZ	51
80	GRETZKY	164	87	GRETZKY	149

## Assists

The introduction of the forward pass in 1929 made assists a more relevant statistic. The median number of assists per forward stayed relatively constant from the '60s to the '90s, when they dropped markedly.



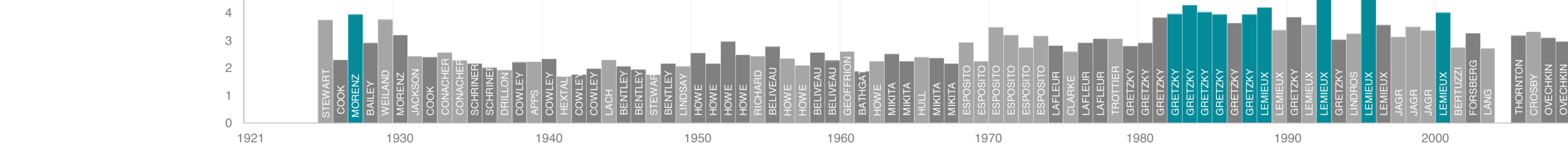
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## Points

The Fair Scoring Metric shows that the league's best players did not greatly outpace its average ones in the 50s and 60s. Phil Esposito marked the uptick that continued with Gretzky and Lemieux, who far exceeded the results of a typical player. The addition of 15 teams in the '60s and '70s most likely contributed to this difference.



## Dominant Decades

Each of these players ruled their respective decades, according to the Fair Scoring Metrics. As you might expect, every one except Ovechkin has won at least one Stanley Cup.



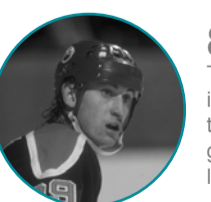
**20s: Howie Morenz**  
One of the early stars of the NHL, Howie Morenz won three Stanley Cups with the Montreal Canadiens and set numerous scoring records. He was the first player to have his jersey number retired.



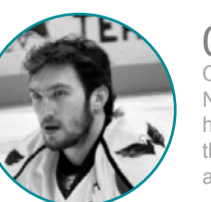
**40s: Bill Cowley**  
Cowboy Cowley played 13 years for the St. Louis Eagles and Boston Bruins. Winner of two Stanley Cups in '39 and '41, Cowley would retire as the league's all-time point scorer with 548 points in 549 games.



**60s: Bobby Hull**  
The Golden Jet was a pure goal scorer, leading the league in goals seven times in the decade. Famous for his wicked stick curves, Hull passed Maurice Richard's record of 50 goals in 1966.



**80s: Wayne Gretzky**  
The Great One holds almost every important scoring record in the history of the game. His style of play change the game, and his 1988 trade to Los Angeles led to multiple new teams in the "Sun Belt".



**00s: Alexander Ovechkin**  
Ovechkin is the most talented forward in a new class of NHL stars. Playing in an era of reduced goal-scoring, his accomplishments do not appear as impressive as they are. His 65 goals in 2007 was the seventh best of all time according to the Fair Scoring Metric.



**30s: Charlie Conacher**  
The Big Bomber, Conacher started for the Toronto Maple Leafs and led the league five times in goals. He resides in the Hall of Fame with his two brothers, Lionel and Roy. He was ranked #36 all-time by The Hockey News.



**50s: Gordie Howe**  
Mr. Hockey, Howe was known equally for his scoring prowess and his physical style of play. He won four Stanley Cups with the Red Wings and was voted the league's MVP six times.



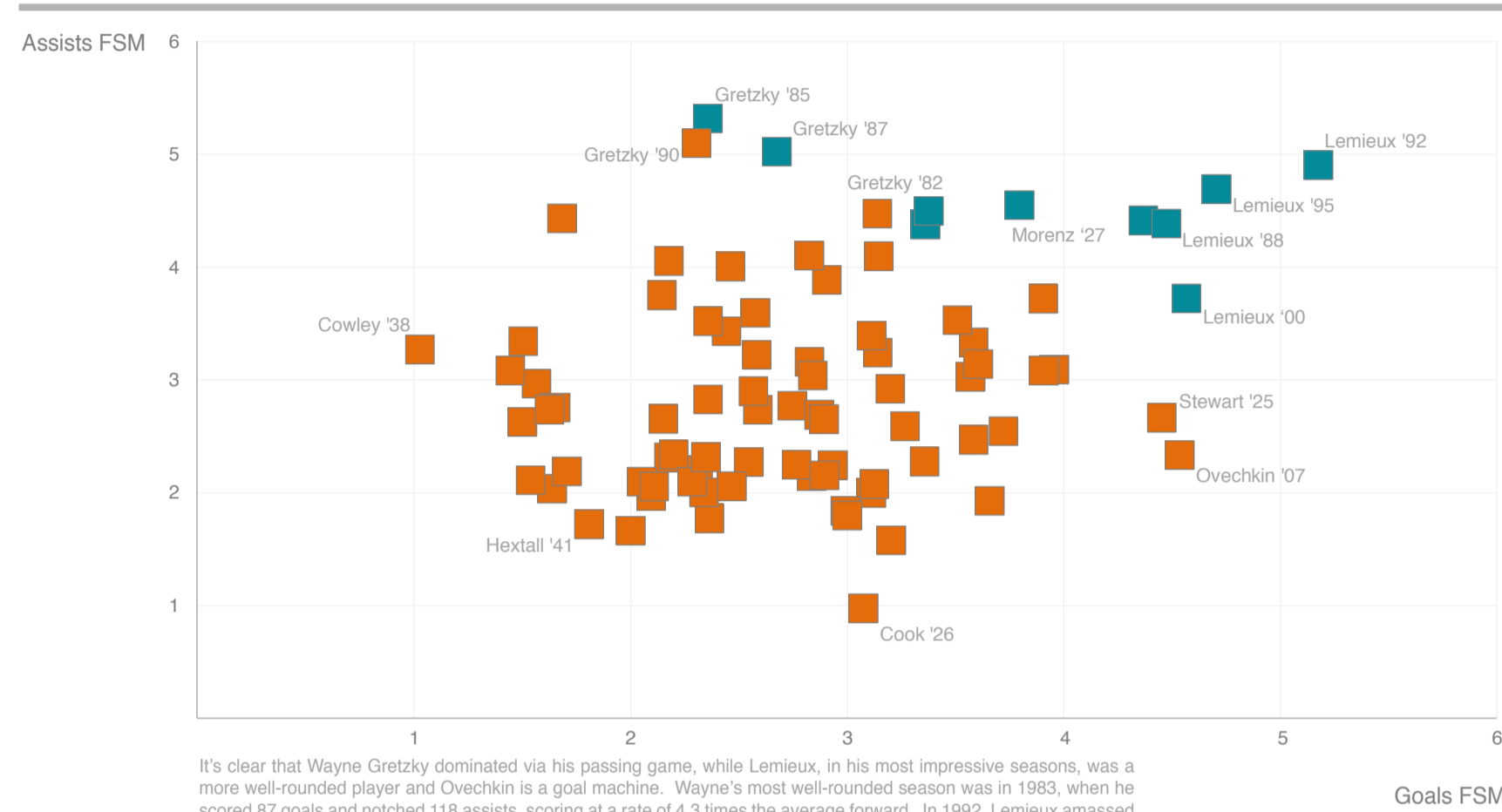
**70s: Phil Esposito**  
Espo was the first NHL player to score 100 points in a season when he did so in 1969. He shattered the season goal-scoring record with 76 in the '70-'71 season and won two Cups alongside Bobby Orr.



**90s: Mario Lemieux**  
Super Mario may be the most dominant forward ever. Despite numerous health issues he led the Penguins to two Stanley Cups. In '89-'89, he scored or assisted on 57% of his teams' goals.

## Most Dominant Seasons

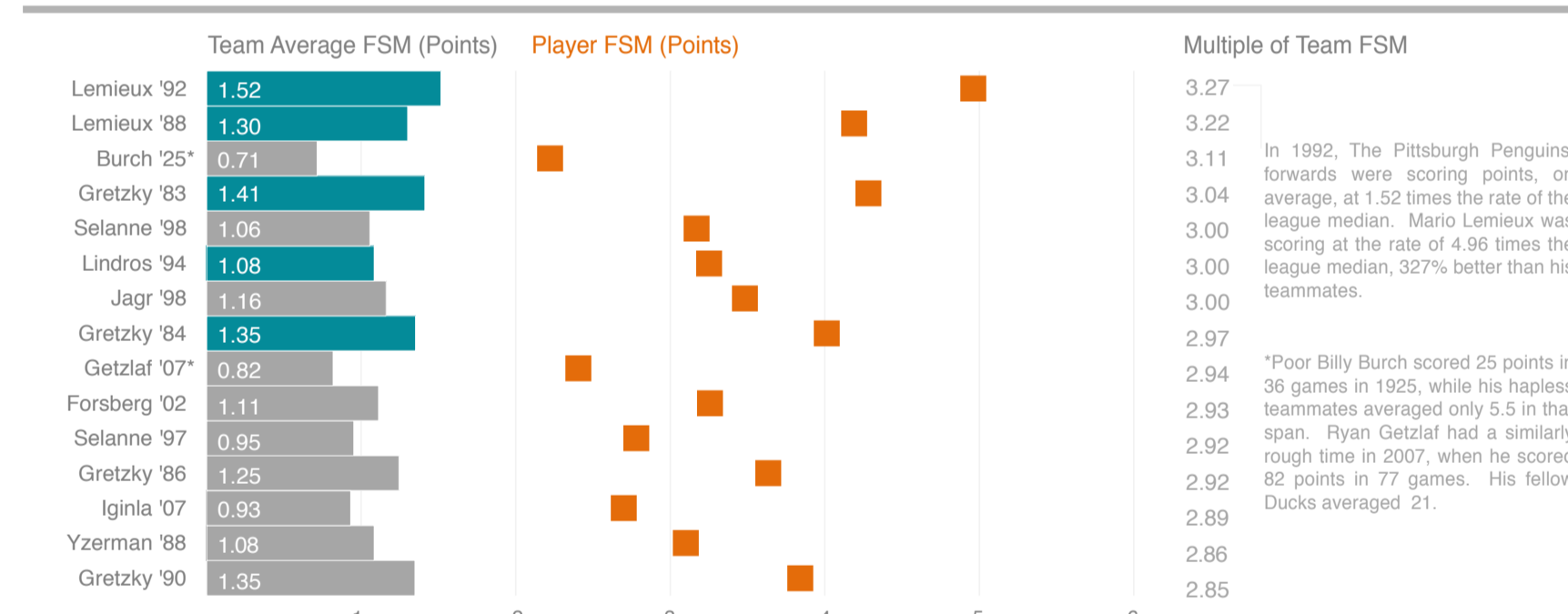
Each season points leader (by FSM) by their goals and assists FSM. Seasons in the upper right suggest strong dominance, while the lower left suggests weak leads.



It's clear that Wayne Gretzky dominated via his passing game, while Lemieux, in his most impressive seasons, was a more well-rounded player and Ovechkin is a goal machine. Wayne's most well-rounded season was in 1983, when he scored 87 goals and notched 118 assists, scoring at a rate of 4.3 times the average forward. In 1992, Lemieux amassed 61 goals and 91 assists in only 60 games (a rate of 2.7 points per game, or almost five times the average forward.

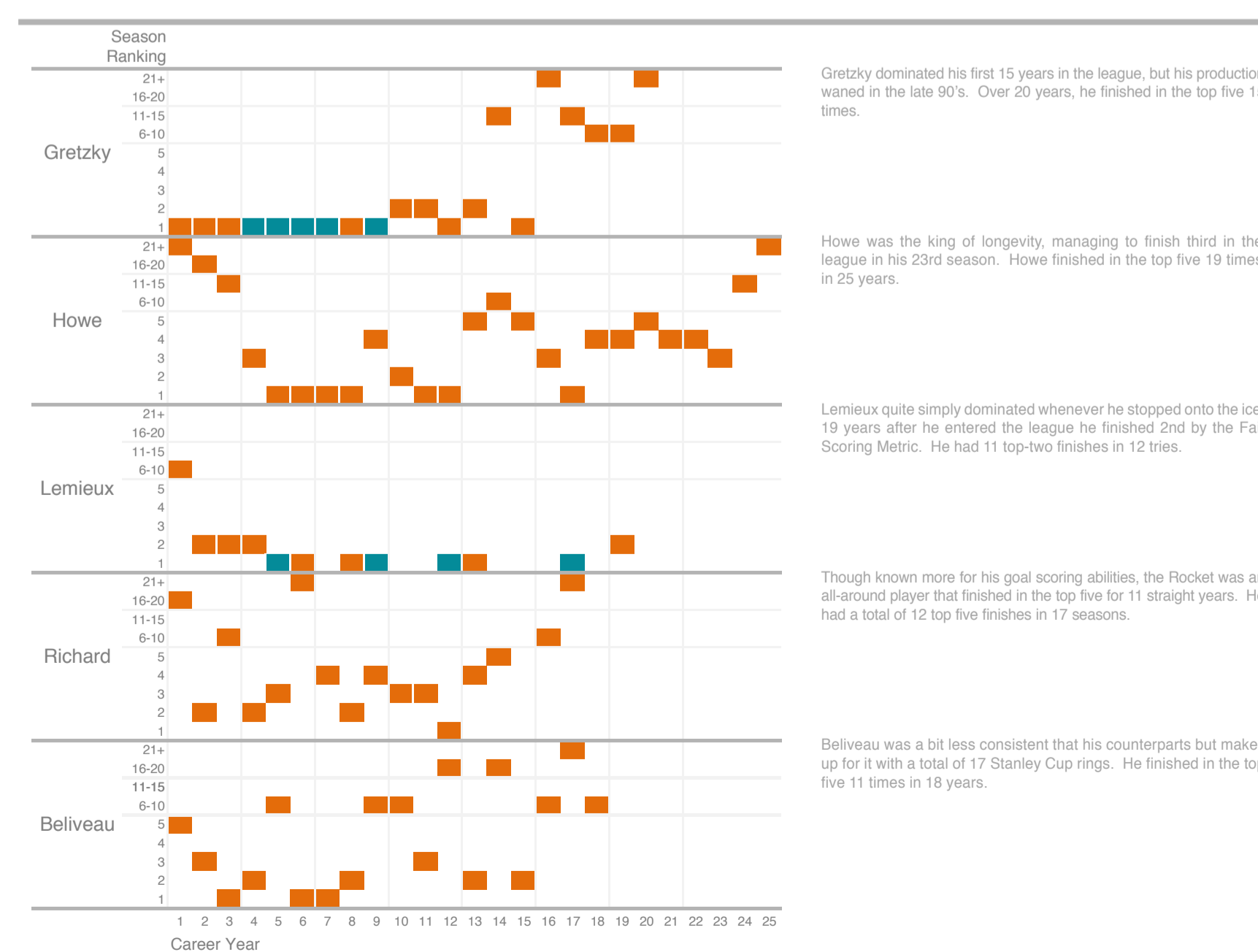
## Most Valuable Player

By comparing each team points leader to his team's average FSM, we can understand which player was most important to his team. Below, the 15 most valuable forwards in the last 83 years.



## Over a Career

Maintaining dominance over an entire career is a feat in itself. Below are how the five greatest forwards in the history of the game (according to The Hockey News) have performed by their Points FSM over the life of their career.



Gretzky dominated his first 15 years in the league, but his production waned in the late 90s. Over 20 years, he finished in the top five 15 times.

Howe was the king of longevity, managing to finish third in the league in his 23rd season. Howe finished in the top five 19 times in 25 years.

Lemieux quite simply dominated whenever he stepped onto the ice 19 years after he entered the league he finished 2nd by the Fair Scoring Metric. He had 11 top-two finishes in 12 tries.

Though known more for his goal scoring abilities, the Rocket was an all-around player that finished in the top five for 11 straight years. He had a total of 12 top five finishes in 17 seasons.

Beliveau was a bit less consistent that his counterparts but makes up for it with a total of 17 Stanley Cup rings. He finished in the top five 11 times in 18 years.