

Your assignment is to collect salary and performance data for the players on your NHL team.

Collect your player data for the 2014/15 season and assemble it in an excel file as follows: (as before, any data that you collect will need to be documented with respect to your source(s))

<u>Column</u>	<u>Category:</u>
A	Player Name
B	Player Salary
C	Games
D	Goals
E	Assists
F	Defence (Dummy variable)
G	Penalty Minutes
H	Leadership (Dummy variable)

Once you have acquired and assembled your data, you will need to perform the following two regressions with "Salary" as the dependent variable:

NHL (only use players with at least 20 games played)

$$\text{Salary} = \beta_0 + \beta_1 \text{Goals} + \beta_2 \text{Assists} + \beta_3 \text{Defence} + \beta_4 \text{Penalty Minutes}$$

$$\text{Salary} = \beta_0 + \beta_1 \text{Goals} + \beta_2 \text{Assists} + \beta_3 \text{Defence} + \beta_4 \text{Penalty Minutes} + \beta_5 \text{Leadership}$$

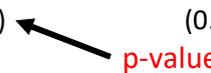
Problem #1 (40 points – 30 for data and 10 for result presentation)

What are your regression results? Present your team specific set of 2 regression results as in the examples below:

NHL Regression Results

$$\text{Salary} = \$645,198.07 + \$46,987.02 \text{ Goals} + \$67,018.24 \text{ Assists} + \$622,819.75 \text{ Defence} - \$788.62 \text{ PIM}$$

(0.000)
(0.000)
(0.000)
(0.000)
(0.687)



$$\text{Salary} = \$756,607.94 + \$37,798.22 \text{ G} + \$48,151.24 \text{ A} + \$592,896.80 \text{ D} - \$1,332.97 \text{ PIM} + \$1,842,607.82 \text{ Leader}$$

(0.000)
(0.000)
(0.000)
(0.000)
(0.462)
(0.000)

Problem #2 (15 points)

Given your results for your NHL team, is there a variable in these team specific regressions that you performed which you expected to have a greater/different impact on salaries? Why?

Problem #3 (25 points)

Suppose that

$$\text{Salary} = \$756,607.94 + \$37,798.22 \text{ G} + \$48,151.24 \text{ A} + \$592,896.80 \text{ D} - \$1,332.97 \text{ PIM} + \$1,842,607.82 \text{ Leader}$$

(0.000)
(0.000)
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(0.462)
(0.000)

continues to represent the 2014/2015 NHL as a whole. Calculate (in your excel file) each of your players' estimated salary based on their 2014/2015 performance. Which players on your team were overpaid? Which players on your team were underpaid.

For example, for the Buffalo Sabres (partial numbers from a different season)...

Name	2011 Salary	Estimated Salary	Difference (actual - est.)	Effect
Jason Pominville	5500000	5787670	-287670	underpaid
Thomas Vanek	6400000	5197948	1202052	overpaid
Drew Stafford	4000000	4738401	-738401	underpaid
Tyler Ennis	875000	2219793	-1344793	underpaid
Christian Ehrhoff	10000000	2775930	7224070	overpaid
Ville Leino	6000000	1856237	4143763	overpaid
Brad Boyes	4000000	1773264	2226736	overpaid
Tyler Myers	875000	2330171	-1455171	underpaid
Luke Adam	737500	1597441	-859941	underpaid
Paul Gaustad	2500000	3252008	-752008	underpaid
Andrej Sekera	4250000	1920418	2329582	overpaid
Marc-Andre Gagnani	550000	1890307	-1340307	underpaid

Problem #4 (20 points)

Can you think of a variable that we might have left out that could help explain the variations in salary? What variable did you think of and why might it be related to how players are paid in the NHL?